



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 168513

TO: Ralph J Gitomer
Location: rem/3D65/3C18
Art Unit: 1655
Thursday, November 03, 2005

Case Serial Number: 10/750637

From: Alex Waclawiw
Location: Biotech-Chem Library
Rem 1A71
Phone: 272-2534

Alexandra.waclawiw@uspto.gov

Search Notes

Access DB# 169613

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: R. GITOWEN Examiner #: 69630 Date: 10/26/05
Art Unit: 1655 Phone Number 30 _____ Serial Number: 10/750,637
Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL
3265/3C18

If more than one search is submitted, please prioritize searches in order of need. MEY

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____
Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

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TECH/CHEM. DIVISION
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STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN <u>\$</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Point of Contact: <u>Alexandra Wacławski</u>	Structure (#) _____	Questel/Orbit _____
Searcher Location: <u>Technical Info. Specialist</u>	Bibliographic <u>/</u>	Dr. Link _____
Searcher's Office: <u>MA 6A02 Tel: 308-4491</u>	Litigation _____	Lexis/Nexis _____
Date Searcher Picked Up: <u>11-3</u>	Fulltext _____	Sequence Systems _____
Date Completed: _____	Patent Family _____	WWW/Internet _____
Searcher Prep & Review Time: <u>16</u>	Other _____	Other (specify) _____
Clerical Prep Time: _____		
Online Time: <u>76</u>		

=> d his ful

(FILE 'REGISTRY' ENTERED AT 13:43:55 ON 03 NOV 2005)

DEL HIS Y
D SAVE
ACT ENZYMES/A

L1 (1) SEA ABB=ON PLU=ON "ORGANOPHOSPHORUS HYDROLASE"/CN
L2 (1) SEA ABB=ON PLU=ON "ORGANOPHOSPHORUS ACID ANHYDROLASE"/CN
L3 (1) SEA ABB=ON PLU=ON DFPASE/CN
L4 (1) SEA ABB=ON PLU=ON PHOSPHOTRIESTERASE/CN
L5 3 SEA ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4)

ACT POLYELECTRO/A

L6 4 SEA ABB=ON PLU=ON 9002-98-6 OR 9003-01-4 OR 49718-51-6 OR
26062-79-3 OR 26062-79-3

ACT ENDCAP/A

L7 3 SEA ABB=ON PLU=ON 5919-74-4 OR 149305-62-4 OR 1760-24-3

FILE 'CAPLUS' ENTERED AT 13:45:45 ON 03 NOV 2005

L8 1505 SEA ABB=ON PLU=ON L5
L9 6210 SEA ABB=ON PLU=ON ENZYMES, USES/CT
L10 31031 SEA ABB=ON PLU=ON L6
L11 18108 SEA ABB=ON PLU=ON POLYELECTROLYTES/CT
L12 1903 SEA ABB=ON PLU=ON END CAP?/OBI
L13 4507 SEA ABB=ON PLU=ON L7
L14 7698 SEA ABB=ON PLU=ON L8 OR L9
L15 46227 SEA ABB=ON PLU=ON L10 OR L11
L16 6408 SEA ABB=ON PLU=ON L12 OR L13
L17 2 SEA ABB=ON PLU=ON L14 AND L15 AND L16
L18 146 SEA ABB=ON PLU=ON L14 AND L15
L19 1188205 SEA ABB=ON PLU=ON TOXIN#/OBI OR CHEMICAL#/OBI
L20 16 SEA ABB=ON PLU=ON L18 AND L19
L21 2314372 SEA ABB=ON PLU=ON MATERIAL/OBI OR BIOACTIV?/OBI OR GLASS/OBI
OR SILICA/OBI OR TEXTILE#/OBI OR CLOTH?/OBI OR THREAD?/OBI
L22 66 SEA ABB=ON PLU=ON L18 AND L21
L23 10530 SEA ABB=ON PLU=ON DECONTAMI?/OBI
L24 737361 SEA ABB=ON PLU=ON CATALYS?/OBI
L25 3 SEA ABB=ON PLU=ON L22 AND L23
L26 20 SEA ABB=ON PLU=ON L22 AND L24
L27 4 SEA ABB=ON PLU=ON L17 OR L25
L28 19 SEA ABB=ON PLU=ON L26 NOT L27
L29 7384 SEA ABB=ON PLU=ON ENZYME/OBI (L) MODIF?/OBI
L30 160 SEA ABB=ON PLU=ON L21 (L) L29
L31 17 SEA ABB=ON PLU=ON L30 AND L19
L32 950582 SEA ABB=ON PLU=ON PROTECT?/OBI OR DECONTAMIN?/OBI OR
SAFETY/OBI OR COAT?/OBI
L33 4 SEA ABB=ON PLU=ON L31 AND L32
L34 21409 SEA ABB=ON PLU=ON CHELAT?/OBI (L) (METAL/OBI OR CU/OBI OR
COPPER/OBI)

FILE 'REGISTRY' ENTERED AT 13:58:35 ON 03 NOV 2005

E COPPER/CN

L35 1 SEA ABB=ON PLU=ON COPPER/CN

FILE 'CAPLUS' ENTERED AT 13:58:51 ON 03 NOV 2005

Gitomer 10/750,637

L36	494865	SEA ABB=ON	PLU=ON	L35
L37	3	SEA ABB=ON	PLU=ON	L30 AND (L36 OR L34)
L38	9	SEA ABB=ON	PLU=ON	L18 AND (L34 OR L36)
L39	17	SEA ABB=ON	PLU=ON	L37 OR L38 OR L33 OR L27
L40	64633	SEA ABB=ON	PLU=ON	TOXINS/CT
L41	12361	SEA ABB=ON	PLU=ON	CHEMICALS/CT
L42	76849	SEA ABB=ON	PLU=ON	L40 OR L41
L43	1869	SEA ABB=ON	PLU=ON	L42 (L) L32
L44	2	SEA ABB=ON	PLU=ON	L43 AND L18
L45	17	SEA ABB=ON	PLU=ON	L39 OR L44
		E SINGH A/AU		
L46	6030	SEA ABB=ON	PLU=ON	SINGH A?/AU
L47	20767	SEA ABB=ON	PLU=ON	LEE Y?/AU
		E STANISH I/AU		
L48	22	SEA ABB=ON	PLU=ON	("STANISH I"/AU OR "STANISH IVAN"/AU)
		E DRESSICK W?/AU		
L49	99	SEA ABB=ON	PLU=ON	DRESSICK W?/AU
L50	26879	SEA ABB=ON	PLU=ON	(L46 OR L47 OR L48 OR L49)
L51	4	SEA ABB=ON	PLU=ON	L50 AND L18
		D SCAN TI		
L52	8	SEA ABB=ON	PLU=ON	L50 AND L29
L53	95	SEA ABB=ON	PLU=ON	L10 AND L16
L54	2	SEA ABB=ON	PLU=ON	L53 AND L50
L55	11	SEA ABB=ON	PLU=ON	L51 OR L52 OR L54
L56	6	SEA ABB=ON	PLU=ON	L53 AND (L19)
L57	7	SEA ABB=ON	PLU=ON	L53 AND L24
L58	12	SEA ABB=ON	PLU=ON	L56 OR L57
L59	27	SEA ABB=ON	PLU=ON	L58 OR L45
L60	6	SEA ABB=ON	PLU=ON	L55 NOT L59
L61	1	SEA ABB=ON	PLU=ON	L53 AND L34
L62	28	SEA ABB=ON	PLU=ON	L61 OR L59
L63	6	SEA ABB=ON	PLU=ON	L60 NOT L62

=> fil reg

FILE 'REGISTRY' ENTERED AT 14:08:58 ON 03 NOV 2005

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 1 NOV 2005 HIGHEST RN 866526-24-1

DICTIONARY FILE UPDATES: 1 NOV 2005 HIGHEST RN 866526-24-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

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*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005. A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*
*****
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Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> d que 15;d 15 rn cn 1-3

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L1 (      1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "ORGANOPHOSPHORUS HYDROLASE"/
      CN
L2 (      1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "ORGANOPHOSPHORUS ACID
      ANHYDROLASE"/CN
L3 (      1)SEA FILE=REGISTRY ABB=ON  PLU=ON  DFPASE/CN
L4 (      1)SEA FILE=REGISTRY ABB=ON  PLU=ON  PHOSPHOTRIESTERASE/CN
L5      3 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4)
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L5 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN

RN 117698-12-1 REGISTRY

CN Esterase, organophosphate (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Aryldialkylphosphatase

CN Chlorpyrifos oxonase

CN Diazoxonase

CN E.C. 3.1.8.1

CN Esterase B1

CN Esterase E3
 CN Esterase E4
 CN Esterase, paraoxon
 CN Esterase, pirimiphos-methyloxon
 CN Homocysteine thiolactonase
 CN Homocysteine thiolactone hydrolase
 CN Isofenphos hydrolase
 CN Methamidophos-degrading enzyme
 CN Organophosphate esterase
 CN Organophosphate hydrolase
 CN Organophosphate-degrading enzyme
 CN Organophosphorous hydrolase
 CN Organophosphorus esterase
 CN **Organophosphorus hydrolase**
 CN Paraoxon hydrolase
 CN Paraoxonase
 CN Paraoxonase 1

L5 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 9047-01-2 REGISTRY
 CN Esterase, phosphotri- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Phosphotriester hydrolase
 CN Phosphotriester hydrolase
 CN **Phosphotriesterase**

L5 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 9032-18-2 REGISTRY
 CN Diisopropylphosphorofluoridase (9CI) (CA INDEX NAME)

OTHER NAMES:

CN **DFPase**
 CN Dialkylfluorophosphatase
 CN Diisopropyl phosphorofluoridate hydrolase
 CN Diisopropylfluorophosphatase
 CN Diisopropylfluorophosphonate dehalogenase
 CN E.C. 3.1.8.2
 CN E.C. 3.8.2.1
 CN Isopropylphosphorofluoridase
 CN Organophosphorous acid anhydrolase
 CN Organophosphorus acid anhydride hydrolase
 CN **Organophosphorus acid anhydrolase**
 CN Sarinase
 CN Tabunase

=> d que l6 ; d l6 rn cn 1-4

L6 4 SEA FILE=REGISTRY ABB=ON PLU=ON 9002-98-6 OR 9003-01-4 OR
 49718-51-6 OR 26062-79-3 OR 26062-79-3

L6 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2005 ACS on STN
 RN **49718-51-6** REGISTRY
 CN Benzenesulfonic acid, 4-ethenyl-, ion(1-), homopolymer (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Poly(4-styrenesulfonate)

L6 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2005 ACS on STN

RN 26062-79-3 REGISTRY

CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer
(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Ammonium, diallyldimethyl-, chloride, polymers (8CI)

OTHER NAMES:

CN 261LV

CN Additol VXT 3529

CN Agefloc WT 20

CN Agefloc WT 20VHV

CN Agefloc WT 2206

CN Agefloc WT 2206-1800

CN Agefloc WT 35VHV

CN Agefloc WT 35VLV

CN Agefloc WT 40

CN Agefloc WT 40HV

CN Agefloc WT 40SLV

CN Agefloc WT 50SLV

CN Agequat 400

CN Alcofix 109

CN Alcofix 159

CN Alcofix 169

CN Alcofix 182

CN Aronfloc C 70

CN AX 04

CN AX 05

CN AX 05 (polymer)

CN Bufloc 536

CN Calgon 261

CN Calgon 261LV

CN Calgon 261RV

CN Calgon CP 1030

CN Calgon CP 2253

CN Calgon CP 261XLV

CN Calgon CP 280

CN Calgon DMDACC

CN Calgon E 904

CN Calgon E 905

CN Calgon E 921

CN Calgon Polymer 261

CN Cartafix VXT

CN Cat-Floc

CN Cat-Floc 71259

CN Cat-Floc L

CN Cat-Floc P 112-115

CN Cat-Floc T 2

CN Cat-Floc TL

CN Catiofast CS

CN Certrex 340

CN CinFix RDF

CN CM 100

CN CM 100 (onium compound)

CN Conductive Polymer 261

CN CP 103

CN CP 1030

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
DISPLAY

L6 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2005 ACS on STN

RN 9003-01-4 REGISTRY

CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Acrylic acid, polymers (8CI)

OTHER NAMES:

CN A 10H
 CN A 10LL
 CN A 10SL
 CN AC 10H
 CN AC 10LP
 CN Accusol 440
 CN Acryl AG 1000
 CN Acryl AG 1100
 CN Acryl AG 1200
 CN Acrylic acid homopolymer
 CN Acrylic acid polymer
 CN Acrylic acid resin
 CN Acrysol A 1
 CN Acrysol A 3
 CN Acrysol A 5
 CN Acrysol AC 5
 CN Acrysol LMW 20X
 CN Acrytex W 240
 CN Acumer 1530
 CN Acumer 1540
 CN Acumer 9932
 CN Acusol 445
 CN Alcoprint PTF-Z 328
 CN Alcosperse 409
 CN Alcosperse 465
 CN Alcosperse 602A
 CN AQ 3930
 CN Aquafeed 600
 CN Aqualic AS 58
 CN Aqualic DL 400
 CN Aqualic HL 321
 CN Aqualic HL 415
 CN Aqualic HL 580
 CN Aquatreat AR 6
 CN Aquatreat AR 7H
 CN Arasorb 750
 CN Arasorb S 100F
 CN Arespol
 CN Aron
 CN Aron 104
 CN Aron 10H
 CN Aron A 10H
 CN Aron A 10LL
 CN Aron A 10U
 CN Aron A 30LL
 CN AS 58
 CN AS 7503
 CN ASS 2
 CN AW 36

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
 DISPLAY

L6 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2005 ACS on STN

RN 9002-98-6 REGISTRY

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Ethylenimine, polymers (8CI)

OTHER NAMES:

CN 15T
 CN 210T
 CN 2MB
 CN A 131X
 CN AC 871
 CN Adcote 372
 CN Aziridine polymer
 CN Basocoll PR 8086
 CN Basonal White FO 1
 CN Bufloc 595
 CN CF 218
 CN CF 218 (polymer)
 CN Corcat P 100
 CN Corcat P 12
 CN Corcat P 145
 CN Corcat P 150
 CN Corcat P 18
 CN Corcat P 200
 CN Corcat P 600
 CN Duramax 1007
 CN EA 275
 CN EL 402
 CN EL 420
 CN Emerlube 6717
 CN Epomin
 CN Epomin 1000
 CN Epomin 1050
 CN Epomin 150T
 CN Epomin D 3000
 CN Epomin P 003
 CN Epomin P 012
 CN Epomin P 1000
 CN Epomin P 1030
 CN Epomin P 1050
 CN Epomin P 1500
 CN Epomin P 200
 CN Epomin P 500
 CN Epomin SP 003
 CN Epomin SP 006
 CN Epomin SP 012
 CN Epomin SP 018
 CN Epomin SP 1000
 CN Epomin SP 103
 CN Epomin SP 110
 CN Epomin SP 200
 CN Epomin SP 300
 CN Ethyleneimine homopolymer
 CN Ethylenimine homopolymer
 CN Everamine

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
 DISPLAY

=> d que 17;d 17 rn cn 1-3

L7 3 SEA FILE=REGISTRY ABB=ON PLU=ON 5919-74-4 OR 149305-62-4 OR
 1760-24-3

L7 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN

RN 149305-62-4 REGISTRY

CN 1,2-Propanediol, 3-[(4-ethenylphenyl)methoxy]- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 1,2-Dihydroxypropyl 4-vinylbenzyl ether

L7 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN

RN 5919-74-4 REGISTRY

CN 2-Propenoic acid, 2-methyl-, 2,3-dihydroxypropyl ester (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Methacrylic acid, 2,3-dihydroxypropyl ester (6CI)

CN Methacrylin, 1-mono- (8CI)

OTHER NAMES:

CN 2,3-Dihydroxypropyl methacrylate

CN Glyceryl methacrylate

L7 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2005 ACS on STN

RN 1760-24-3 REGISTRY

CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Ethylenediamine, N-[3-(trimethoxysilyl)propyl]- (6CI, 7CI, 8CI)

OTHER NAMES:

CN (2-Aminoethyl) (3-(trimethoxysilyl)propyl) amine

CN (Trimethoxysilylpropyl)ethylenediamine

CN γ -(2-Aminoethyl)aminopropyltrimethoxysilane

CN γ -(Ethylenediamino)propyltrimethoxysilane

CN 3-(Trimethoxysilyl)propylethylenediamine

CN 3-[N-(2-Aminoethyl)amino]propyltrimethoxysilane

CN 6-Amino-4-azahexyltrimethoxysilane

CN A 0700

CN A 1120

CN A 1122

CN A 1200

CN A 1200 (amine)

CN AAS-M

CN AO 700

CN AP 132

CN Dow Corning Z 6020

CN Dynasytan DAMO

CN Dynasytan DAMO-T

CN en-APTAS

CN G 91

CN G 91 (coupling agent)

CN GF 91

CN Hydrosil 2776

CN K 1600

CN KBM 603

CN KH 792

CN LS 2480

CN LS 3750

CN N-(β -Aminoethyl)- γ -aminopropyltrimethoxysilane

CN N-(β -Aminoethyl)-3-aminopropyltrimethoxysilane

CN N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane

CN N-(Aminoethyl)aminopropyltrimethoxysilane

CN N-(Trimethoxysilylpropyl)ethylenediamine

CN N-Aminoethyl-3-aminopropyltrimethoxysilane

CN N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine

CN N-[3-(Trimethoxysilyl)propyl]-1,2-ethylenediamine
 CN N-[3-(Trimethoxysilyl)propyl]ethylenediamine
 CN NUCA 1120
 CN Prosil 3128
 CN S 320
 CN SG-SI 900
 CN SH 6020
 CN SIA 0591.0
 CN Sila-Ace S 320
 CN Silane A 1120
 CN Silquest A 1120
 CN SZ 6020
 CN Trimethoxy[3-[(2-aminoethyl)amino]propyl]silane
 CN TSL 8340

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
 DISPLAY

=> d que 135;d rn cn 135

L35 1 SEA FILE=REGISTRY ABB=ON PLU=ON COPPER/CN

L35 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2005 ACS on STN

RN 7440-50-8 REGISTRY

CN **Copper (7CI, 8CI, 9CI)** (CA INDEX NAME)

OTHER NAMES:

CN 1000Y
 CN 100RXH
 CN 1050Y
 CN 1100T
 CN 1100Y
 CN 115A
 CN 1300YM
 CN 1300YP
 CN 1721 Gold
 CN 200RL
 CN 22BB400
 CN 2L3GT
 CN 3EC
 CN 3EC-HTE
 CN 3EC-III
 CN 3EC-M3S-HTE
 CN 3EC-M3VLP18
 CN 3EC-VEP
 CN 3EC-VLP
 CN 3EC-VLP18
 CN 3EC-VLP35
 CN 3EC3
 CN 3L Fire
 CN Allbri Natural Copper
 CN AM-FN
 CN Arwood copper
 CN B-WS
 CN B152-ETP
 CN BAC 13B-NK120
 CN BAC 13T
 CN BHN
 CN BHN 02T

CN BHY 02B-T
 CN BHY 13B-T
 CN BHY 13HT
 CN BHY 13T
 CN BHY 22B-T
 CN BHY 22T
 CN BPF 18
 CN BSH
 CN BSH (metal)
 CN BYH 22B-T
 CN C 100
 CN C 100 (metal)
 CN C.I. 77400
 CN C.I. Pigment Metal 2
 CN CCL-HL 830
 CN CDX
 CN CDX (metal)
 CN CE 1100

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY

=> fil caplus

FILE 'CAPLUS' ENTERED AT 14:10:06 ON 03 NOV 2005

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 FILE LAST UPDATED: 2 Nov 2005 (20051102/ED)

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<http://www.cas.org/infopolicy.html>

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

=> d que 162

L1 (	1)SEA FILE=REGISTRY ABB=ON	PLU=ON	"ORGANOPHOSPHORUS HYDROLASE"/
	CN		
L2 (	1)SEA FILE=REGISTRY ABB=ON	PLU=ON	"ORGANOPHOSPHORUS ACID
	ANHYDROLASE"/CN		
L3 (	1)SEA FILE=REGISTRY ABB=ON	PLU=ON	DHPASE/CN
L4 (	1)SEA FILE=REGISTRY ABB=ON	PLU=ON	PHOSPHOTRIESTERASE/CN
L5	3 SEA FILE=REGISTRY ABB=ON	PLU=ON	(L1 OR L2 OR L3 OR L4)
L6	4 SEA FILE=REGISTRY ABB=ON	PLU=ON	9002-98-6 OR 9003-01-4 OR
	49718-51-6 OR 26062-79-3 OR 26062-79-3		
L7	3 SEA FILE=REGISTRY ABB=ON	PLU=ON	5919-74-4 OR 149305-62-4 OR
	1760-24-3		

L8	1505	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L5
L9	6210	SEA FILE=CAPLUS	ABB=ON	PLU=ON	ENZYMES, USES/CT
L10	31031	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L6
L11	18108	SEA FILE=CAPLUS	ABB=ON	PLU=ON	POLYELECTROLYTES/CT
L12	1903	SEA FILE=CAPLUS	ABB=ON	PLU=ON	END CAP?/OBI
L13	4507	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L7
L14	7698	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L8 OR L9
L15	46227	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L10 OR L11
L16	6408	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L12 OR L13
L17	2	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L14 AND L15 AND L16
L18	146	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L14 AND L15
L19	1188205	SEA FILE=CAPLUS	ABB=ON	PLU=ON	TOXIN#/OBI OR CHEMICAL#/OBI
L21	2314372	SEA FILE=CAPLUS	ABB=ON	PLU=ON	MATERIAL/OBI OR BIOACTIV?/OBI OR GLASS/OBI OR SILICA/OBI OR TEXTILE#/OBI OR CLOTH?/OBI OR THREAD?/OBI
L22	66	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L18 AND L21
L23	10530	SEA FILE=CAPLUS	ABB=ON	PLU=ON	DECONTAMI?/OBI
L24	737361	SEA FILE=CAPLUS	ABB=ON	PLU=ON	CATALYS?/OBI
L25	3	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L22 AND L23
L27	4	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L17 OR L25
L29	7384	SEA FILE=CAPLUS	ABB=ON	PLU=ON	ENZYME/OBI (L) MODIF?/OBI
L30	160	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L21 (L) L29
L31	17	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L30 AND L19
L32	950582	SEA FILE=CAPLUS	ABB=ON	PLU=ON	PROTECT?/OBI OR DECONTAMIN?/OBI OR SAFETY/OBI OR COAT?/OBI
L33	4	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L31 AND L32
L34	21409	SEA FILE=CAPLUS	ABB=ON	PLU=ON	CHELAT?/OBI (L) (METAL/OBI OR CU/OBI OR COPPER/OBI)
L35	1	SEA FILE=REGISTRY	ABB=ON	PLU=ON	COPPER/CN
L36	494865	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L35
L37	3	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L30 AND (L36 OR L34)
L38	9	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L18 AND (L34 OR L36)
L39	17	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L37 OR L38 OR L33 OR L27
L40	64633	SEA FILE=CAPLUS	ABB=ON	PLU=ON	TOXINS/CT
L41	12361	SEA FILE=CAPLUS	ABB=ON	PLU=ON	CHEMICALS/CT
L42	76849	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L40 OR L41
L43	1869	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L42 (L) L32
L44	2	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L43 AND L18
L45	17	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L39 OR L44
L53	95	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L10 AND L16
L56	6	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L53 AND (L19)
L57	7	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L53 AND L24
L58	12	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L56 OR L57
L59	27	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L58 OR L45
L61	1	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L53 AND L34
L62	28	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L61 OR L59

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Inventors.

L1	(1) SEA FILE=REGISTRY	ABB=ON	PLU=ON	"ORGANOPHOSPHORUS HYDROLASE"/ CN
L2	(	1) SEA FILE=REGISTRY	ABB=ON	PLU=ON	"ORGANOPHOSPHORUS ACID ANHYDROLASE"/CN
L3	(	1) SEA FILE=REGISTRY	ABB=ON	PLU=ON	DFPASE/CN
L4	(	1) SEA FILE=REGISTRY	ABB=ON	PLU=ON	PHOSPHOTRIESTERASE/CN
L5		3 SEA FILE=REGISTRY	ABB=ON	PLU=ON	(L1 OR L2 OR L3 OR L4)
L6		4 SEA FILE=REGISTRY	ABB=ON	PLU=ON	9002-98-6 OR 9003-01-4 OR 49718-51-6 OR 26062-79-3 OR 26062-79-3
L7		3 SEA FILE=REGISTRY	ABB=ON	PLU=ON	5919-74-4 OR 149305-62-4 OR 1760-24-3

L8	1505	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L5
L9	6210	SEA FILE=CAPLUS	ABB=ON	PLU=ON	ENZYMES, USES/CT
L10	31031	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L6
L11	18108	SEA FILE=CAPLUS	ABB=ON	PLU=ON	POLYELECTROLYTES/CT
L12	1903	SEA FILE=CAPLUS	ABB=ON	PLU=ON	END CAP?/OBI
L13	4507	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L7
L14	7698	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L8 OR L9
L15	46227	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L10 OR L11
L16	6408	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L12 OR L13
L17	2	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L14 AND L15 AND L16
L18	146	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L14 AND L15
L19	1188205	SEA FILE=CAPLUS	ABB=ON	PLU=ON	TOXIN#/OBI OR CHEMICAL#/OBI
L21	2314372	SEA FILE=CAPLUS	ABB=ON	PLU=ON	MATERIAL/OBI OR BIOACTIV?/OBI OR GLASS/OBI OR SILICA/OBI OR TEXTILE#/OBI OR CLOTH?/OBI OR THREAD?/OBI
L22	66	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L18 AND L21
L23	10530	SEA FILE=CAPLUS	ABB=ON	PLU=ON	DECONTAMI?/OBI
L24	737361	SEA FILE=CAPLUS	ABB=ON	PLU=ON	CATALYS?/OBI
L25	3	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L22 AND L23
L27	4	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L17 OR L25
L29	7384	SEA FILE=CAPLUS	ABB=ON	PLU=ON	ENZYME/OBI (L) MODIF?/OBI
L30	160	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L21 (L) L29
L31	17	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L30 AND L19
L32	950582	SEA FILE=CAPLUS	ABB=ON	PLU=ON	PROTECT?/OBI OR DECONTAMIN?/OBI OR SAFETY/OBI OR COAT?/OBI
L33	4	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L31 AND L32
L34	21409	SEA FILE=CAPLUS	ABB=ON	PLU=ON	CHELAT?/OBI (L) (METAL/OBI OR CU/OBI OR COPPER/OBI)
L35	1	SEA FILE=REGISTRY	ABB=ON	PLU=ON	COPPER/CN
L36	494865	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L35
L37	3	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L30 AND (L36 OR L34)
L38	9	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L18 AND (L34 OR L36)
L39	17	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L37 OR L38 OR L33 OR L27
L40	64633	SEA FILE=CAPLUS	ABB=ON	PLU=ON	TOXINS/CT
L41	12361	SEA FILE=CAPLUS	ABB=ON	PLU=ON	CHEMICALS/CT
L42	76849	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L40 OR L41
L43	1869	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L42 (L) L32
L44	2	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L43 AND L18
L45	17	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L39 OR L44
L46	6030	SEA FILE=CAPLUS	ABB=ON	PLU=ON	SINGH A?/AU
L47	20767	SEA FILE=CAPLUS	ABB=ON	PLU=ON	LEE Y?/AU
L48	22	SEA FILE=CAPLUS	ABB=ON	PLU=ON	("STANISH I"/AU OR "STANISH IVAN"/AU)
L49	99	SEA FILE=CAPLUS	ABB=ON	PLU=ON	DRESSICK W?/AU
L50	26879	SEA FILE=CAPLUS	ABB=ON	PLU=ON	(L46 OR L47 OR L48 OR L49)
L51	4	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L50 AND L18
L52	8	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L50 AND L29
L53	95	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L10 AND L16
L54	2	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L53 AND L50
L55	11	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L51 OR L52 OR L54
L56	6	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L53 AND (L19)
L57	7	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L53 AND L24
L58	12	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L56 OR L57
L59	27	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L58 OR L45
L60	6	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L55 NOT L59
L61	1	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L53 AND L34
L62	28	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L61 OR L59
L63	6	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L60 NOT L62

=> d .ca 162 1-28;d .ca 163 1-6
 THE ESTIMATED COST FOR THIS REQUEST IS 83.16 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L62 ANSWER 1 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:641826 CAPLUS
 DOCUMENT NUMBER: 143:156038
 TITLE: Methods of using sealants in multilateral junctions
 INVENTOR(S): Eoff, Larry S.; Everett, Don M.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 14 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005159319	A1	20050721	US 2004-759676	20040116
PRIORITY APPLN. INFO.:			US 2004-759676	20040116

ED Entered STN: 22 Jul 2005
 AB The present invention relates to the completion of subterranean well bores in a multilateral well system. More particularly, this invention relates to the sealing of junctions between lateral well bores and a parent well bore. The sealants used in accordance with the methods of the present invention generally comprise any sealing composition which can be placed within a reservoir, and injected a sufficient distance into a region of the formation surrounding a junction between a 1st well bore and a 2nd well bore in fluid communication with the 1st well bore, so as to prevent the undesired entry of formation fluids into either well bore in the region surrounding the junction.
 IC ICM E21B033-00
 INCL 507225000; 507219000; 507224000
 CC 51-2 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 38, 39
 IT Polymerization **catalysts**
 (delayed activator for silicates; methods of using polymer and copolymer sealants in multilateral junctions)
 IT Polymerization **catalysts**
 (radical; methods of using polymer and copolymer sealants in multilateral junctions)
 IT Polymerization **catalysts**
 (redox; methods of using polymer and copolymer sealants in multilateral junctions)
 IT 919-30-2, γ -Aminopropyltriethoxysilane 1760-24-3
 3069-24-7 35141-30-1 103526-27-8 860028-10-0
 RL: MOA (Modifier or additive use); USES (Uses)
 (coupling agent; methods of using polymer and copolymer sealants in multilateral junctions)
 IT 9002-98-6
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (crosslinking agent; methods of using polymer and copolymer sealants in multilateral junctions)
 IT 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 76-03-9, Trichloroacetic acid, uses 79-52-7, 1,1,3-Trichlorotrifluoroacetone 85-42-7, Hexahydrophthalic anhydride 85-44-9, Phthalic anhydride 88-95-9, 1,2-Benzenedicarbonyl dichloride 89-32-7, Pyromellitic dianhydride 98-07-7, Benzotrichloride 98-87-3, Benzal chloride

98-88-4, Benzoyl chloride 100-44-7, Benzyl chloride, uses 101-77-9,
 Diaminodiphenylmethane 103-83-3, Benzyldimethylamine 104-78-9
 107-15-3, Ethylenediamine, uses 108-31-6, Maleic anhydride, uses
 108-45-2, m-Phenylenediamine, uses 109-55-7 110-89-4, Piperidine, uses
 111-40-0, Diethylenetriamine 112-24-3, Triethylenetetramine 116-16-5,
 Hexachloroacetone 140-31-8, 1-Piperazineethanamine 627-63-4, Fumaryl
 chloride 694-83-7, 1,2-Diaminocyclohexane 1477-55-0,
 1,3-Benzenedimethanamine 2855-13-2, Isophorone diamine 7647-01-0,
 Hydrochloric acid, uses 9002-98-6D, derivs. 26444-72-4,
 (Tris(dimethylamino)methyl)phenol 26590-20-5, Methyltetrahydrophthalic
 anhydride 28299-33-4, Imidazoline 31307-24-1, Methylbicyclo-[2,2,1]-5-
 heptene-2,3-dicarboxylic anhydride 59516-66-4, Oxalic anhydride
 860309-87-1

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES
 (Uses)

(hardening agent; methods of using polymer and copolymer sealants in
 multilateral junctions)

L62 ANSWER 2 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:547065 CAPLUS

DOCUMENT NUMBER: 143:73874

TITLE: Catalytic **enzyme-modified**
textiles for active protection from
toxins

INVENTOR(S): Singh, Alok; Dressick, Walter J.; Lee, Yongwoo

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 18 pp., Sont.-in-part of U.S.
 Ser. No. 750,637.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005136523	A1	20050623	US 2004-849621	20040520
US 2005136522	A1	20050623	US 2003-750637	20031223
PRIORITY APPLN. INFO.:			US 2003-750637	A2 20031223

ED Entered STN: 24 Jun 2005

AB The present invention provides bioactive catalytic enzyme-modified
 textiles for providing protection from chemical exposure that are stable and
 retain their catalytic activity comprise a cloth substrate, at least one
 polyelectrolyte layer, at least one enzyme layer to degrade the chemical
 agent, and an end-capping layer. The textiles of the present invention
 can be used for reusable clothing that decontaminates itself after
 exposure to toxins and can be worn multiple times or for disposable
 clothing and wipes intended for a single use that decontaminate themselves
 without harming the environment. In a preferred embodiment, the present
 invention takes advantage of superior catalytic activity of enzymes by
 immobilizing them within polyelectrolyte multilayers (PEMs). The
 technique for forming multilayers is simple and effective as
 polyelectrolytes of opposing polarity are alternatively deposited through
 neutralization and overcompensation of their charges. A capping agent
 provides stability to the multilayers, keeps enzymes protected in adverse
 working environments, and attracts the toxic agents to facilitate contact
 with the catalytic sites. The present invention provides several
 advantages over the prior art. It leads to enhanced enzyme shelf life
 under normal storage conditions. It allows incorporation of multiple
 components into multilayers to provide add-on capabilities to the

packaged system. It is lightwt., robust, sturdy, disposable, self-decontaminating, and cost-effective. It offers versatility as it can be designed for use on various materials. One example demonstrates the preparation of a polyelectrolyte-enzyme multilayer containing a single layer

of the

OPH enzyme on a woven fiberglass cloth sample by the dip coating method.

IC ICM C12N009-16

INCL 435196000

CC 7-7 (Enzymes)

Section cross-reference(s): 40

ST **catalysis enzyme modified textile
toxin decontamination protective
clothing**

IT **Chemicals**

Decontamination

Textiles

(catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)

IT **Enzymes, uses**

RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES
(Uses)

(catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)

IT **Fluoropolymers, uses**

RL: NUU (Other use, unclassified); USES (Uses)

(catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)

IT **Toxins**

RL: REM (Removal or disposal); PROC (Process)

(catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)

IT **Glass fiber fabrics**

RL: TEM (Technical or engineered material use); USES (Uses)

(catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)

IT **Glass fibers, uses**

RL: TEM (Technical or engineered material use); USES (Uses)

(catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)

IT **Polyamide fibers, uses**

RL: TEM (Technical or engineered material use); USES (Uses)

(catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)

IT **Rayon, uses**

RL: TEM (Technical or engineered material use); USES (Uses)

(catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)

IT **Polymers, uses**

RL: NUU (Other use, unclassified); USES (Uses)

(charged, substrate capable of adsorbing; catalytic **enzyme-
modified textiles** for active **protection**
from **toxins**)

IT **Safety devices**

(chemical **protective clothing**; catalytic
enzyme-modified textiles for active
protection from **toxins**)

IT **Clothing**

(chemical **protective**; catalytic **enzyme-
modified textiles** for active **protection**
from **toxins**)

- IT Amines, uses
RL: NUU (Other use, unclassified); USES (Uses)
(cotton **modified** with; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT **Textiles**
Textiles
(cotton; catalytic **enzyme-modified textiles**
for active **protection** from **toxins**)
- IT **Coating process**
(dip, layers are deposited using; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT **Functional groups**
(hexyl, outmost capping layer comprises branched polyethylenimine
(BPEI) **modified** with; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT **Polyelectrolytes**
(layer; catalytic **enzyme-modified textiles**
for active **protection** from **toxins**)
- IT **Antibacterial agents**
(outermost capping layer contains; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT **Acrylic polymers, uses**
RL: NUU (Other use, unclassified); USES (Uses)
(polyelectrolyte layer comprises; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT **Coating process**
(spin, layers are deposited using; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT **Coating process**
(spray, layers are deposited using; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT **Functional groups**
(substrate comprises a **material** whose surface **chemical**
modified to generate; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT **Threads**
(woven into a fabric, substrate is; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT 923-26-2, 1,2-Dihydroxypropyl methacrylate 1760-24-3,
N-[(3-Trimethoxysilyl)propyl]ethylenediamine 149305-62-4,
1,2-Dihydroxypropyl 4-vinylbenzyl ether
RL: NUU (Other use, unclassified); USES (Uses)
(branched, capping layer comprises; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT 12619-70-4, Cyclodextrin
RL: NUU (Other use, unclassified); USES (Uses)
(cotton **modified** with; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT 7585-39-9, β -Cyclodextrin

- RL: NUU (Other use, unclassified); USES (Uses)
(functionalized polyelectrolyte, polyelectrolyte layer comprises;
catalytic **enzyme-modified textiles** for
active **protection** from **toxins**)
- IT 9032-18-2, Organophosphorous acid anhydrolase
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES
(Uses)
(organophosphorous acid anhydrolase; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT 117698-12-1, EC 3.1.8.1
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES
(Uses)
(organophosphorous hydrolase; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT 74-83-9, Methyl bromide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(outmost capping layer comprises branched polyethylenimine quaternized
with; catalytic **enzyme-modified textiles**
for active **protection** from **toxins**)
- IT 9002-84-0, Polytetrafluoroethylene
RL: NUU (Other use, unclassified); USES (Uses)
(oxidized, substrate comprises; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT 9047-01-2, Phosphotriesterase
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES
(Uses)
(phosphotriesterases (PTE) (EC 3.1.8); catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)
- IT 50851-57-5
RL: NUU (Other use, unclassified); USES (Uses)
(polyelectrolyte layer comprises, capping layer comprises; catalytic
enzyme-modified textiles for active
protection from **toxins**)
- IT 9002-98-6 9003-47-8, Polyvinylpyridine 25087-26-7,
Polymethacrylic acid 25191-25-7, Polyvinyl sulfate 26062-79-3,
Polydiallyl dimethylammonium chloride 26913-06-4, Poly[imino(1,2-
ethanediyl)] 71550-12-4, Polyallylamine hydrochloride
RL: NUU (Other use, unclassified); USES (Uses)
(polyelectrolyte layer comprises; catalytic **enzyme-**
modified textiles for active **protection**
from **toxins**)

L62 ANSWER 3 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:547064 CAPLUS

DOCUMENT NUMBER: 143:82626

TITLE: Catalytic surfaces for active protection from
toxins

INVENTOR(S): Singh, Alok; Lee, Yongwoo; Stanish, Ivan; Chang,
Eddie; Dressick, Walter J.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 15 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005136522	A1	20050623	US 2003-750637	20031223
US 2005136523	A1	20050623	US 2004-849621	20040520
PRIORITY APPLN. INFO.:			US 2003-750637	A2 20031223

ED Entered STN: 24 Jun 2005

AB The present invention relates to catalytic surfaces for active protection from air or water borne toxins by passivation and adsorption of toxic materials. A bioactive catalytic material is disclosed for providing this protection from chemical exposure. The material is composed of enzymes immobilized within polyelectrolyte multilayers and a polymerizable end-capping layer to render stability to enzymes. Also disclosed is the related method for making a bioactive catalytic material and their deposition on substrates of varying size, shape and flexibility for providing active protection from chemical exposure.

IC ICM A61K038-46
ICS C12N009-16

INCL 435196000; 424094600

CC 59-5 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 4

ST multilayer bioactive catalytic material **toxin** degrading adsorption;
chem warfare agent **toxin** degrading adsorption bioactive
catalytic material; protective clothing **chem** warfare agent
bioactive catalytic material

IT **Toxins**
RL: ADV (Adverse effect, including toxicity); PEP (Physical, engineering or chemical process); PYP (Physical process); REM (Removal or disposal); BIOL (Biological study); PROC (Process)
(air or water borne; catalytic surfaces for active **protection** from **toxins**)

IT Glass beads
Glass fiber fabrics
RL: TEM (Technical or engineered material use); USES (Uses)
(as substrate; catalytic surfaces for active protection from **toxins**)

IT Adsorption
Chemical warfare agents
Hydrolysis kinetics
Passivation
(catalytic surfaces for active protection from **toxins**)

IT **Enzymes, uses**
RL: TEM (Technical or engineered material use); USES (Uses)
(catalytic surfaces for active protection from **toxins**)

IT Textiles
(cotton, as substrate; catalytic surfaces for active protection from **toxins**)

IT Hydrolysis
(of **toxins**; catalytic surfaces for active protection from **toxins**)

IT Safety devices
(protective clothing; catalytic surfaces for active protection from **toxins**)

IT Clothing
(protective; catalytic surfaces for active protection from **toxins**)

IT Humidity
(relative, effect of, on enzyme activity; catalytic surfaces for active protection from **toxins**)

IT 298-00-0, Methylparathion

- RL: ADV (Adverse effect, including toxicity); CPS (Chemical process); PEP (Physical, engineering or chemical process); REM (Removal or disposal); BIOL (Biological study); PROC (Process)
(catalytic surfaces for active protection from **toxins**)
- IT 74173-48-1D, 4-Vinyl-4'-methyl-2,2'-bipyridine, copper complexes, polymers with trimethylolpropane trimethacrylate
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(catalytic surfaces for active protection from **toxins**)
- IT 3290-92-4D, Trimethylolpropane trimethacrylate, polymer with Cu(II)-containing vinyl compds. 9032-18-2, Organophosphorus acid anhydrolase 9047-01-2, Phosphotriesterase 117698-12-1, Organophosphorus hydrolase
RL: TEM (Technical or engineered material use); USES (Uses)
(catalytic surfaces for active protection from **toxins**)
- IT 15158-11-9D, complexes, contained in vinyl compds., polymer with trimethylolpropane trimethacrylate
RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
(complex with ethanediamidoxime; catalytic surfaces for active protection from **toxins**)
- IT 79647-56-6, Poly- β -cyclodextrin
RL: NUU (Other use, unclassified); USES (Uses)
(crosslinked, for adsorption of paranitrophenol; catalytic surfaces for active protection from **toxins**)
- IT 7647-14-5, Sodium chloride, miscellaneous
RL: MSC (Miscellaneous)
(effect of, on enzyme activity; catalytic surfaces for active protection from **toxins**)
- IT 1760-24-3, N-[3-Trimethoxysilyl]propyl]ethylenediamine 5919-74-4 149305-62-4
RL: TEM (Technical or engineered material use); USES (Uses)
(end-capping agent; catalytic surfaces for active protection from **toxins**)
- IT 55-91-4, Diisopropyl fluorophosphate
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); REM (Removal or disposal); PROC (Process)
(nerve agent simulant; catalytic surfaces for active protection from **toxins**)
- IT 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(of glass beads, as substrate; catalytic surfaces for active protection from **toxins**)
- IT 9002-98-6 9003-01-4, Polyacrylic acid 26062-79-3, Polydiallyl dimethyl ammonium chloride 50851-57-5
RL: TEM (Technical or engineered material use); USES (Uses)
(or its derivs. branched or linear; catalytic surfaces for active protection from **toxins**)
- IT 100-02-7, processes 1112-38-5
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(product of methylparathion degradation; catalytic surfaces for active protection from **toxins**)

L62 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:239795 CAPLUS

TITLE: Self-cleaning fabrics for decontamination of organophosphorus pesticides and related chemical agents. [Erratum to document cited in CA142:256107]

AUTHOR(S): Singh, Alok; Lee, Yongwoo; Dressick, Walter J.
 CORPORATE SOURCE: Center for Bio/Molecular Science and Engineering,
 Naval Research Laboratory, Washington, DC, 20375, USA
 SOURCE: Advanced Materials (Weinheim, Germany) (2005), 17(4),
 392
 CODEN: ADVMEW; ISSN: 0935-9648
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal; Errata
 LANGUAGE: English
 ED Entered STN: 18 Mar 2005
 AB An erratum.
 CC 4-4 (Toxicology)
 Section cross-reference(s): 5
 ST erratum self cleaning fabric **decontamination** organophosphorus
 pesticide
 IT INDEXING IN PROGRESS
 IT **Textiles**
 (cotton; on self-cleaning fabrics for **decontamination** of
 organophosphorus pesticides (Erratum))
 IT **Decontamination**
 (on self-cleaning fabrics for **decontamination** of
 organophosphorus pesticides (Erratum))
 IT Pesticides
 (organophosphorus; on self-cleaning fabrics for **decontamination**
 of organophosphorus pesticides (Erratum))
 IT **Glass fibers**
 RL: MSC (Miscellaneous)
 (woven **cloth**; on self-cleaning fabrics for
decontamination of organophosphorus pesticides (Erratum))
 IT **117698-12-1**, Organophosphorus hydrolase
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
 (Uses)
 (on self-cleaning fabrics for **decontamination** of
 organophosphorus pesticides (Erratum))
 IT 298-00-0, Methyl parathion
 RL: REM (Removal or disposal); PROC (Process)
 (on self-cleaning fabrics for **decontamination** of
 organophosphorus pesticides (Erratum))
 IT **9002-98-6**, Polyethylenimine
 RL: MOA (Modifier or additive use); USES (Uses)
 (stabilizer; on self-cleaning fabrics for **decontamination** of
 organophosphorus pesticides (Erratum))

L62 ANSWER 5 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:59598 CAPLUS
 DOCUMENT NUMBER: 142:256107
 TITLE: Self-cleaning fabrics for **decontamination** of
 organophosphorus pesticides and related chemical
 agents
 AUTHOR(S): Singh, Alok; Lee, Yongwoo; Dressick, Walter J.
 CORPORATE SOURCE: Center for Bio/Molecular Science and Engineering,
 Naval Research Laboratory, Washington, DC, 20375, USA
 SOURCE: Advanced Materials (Weinheim, Germany) (2004),
 16(23-24), 2112-2115
 CODEN: ADVMEW; ISSN: 0935-9648
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 21 Jan 2005
 AB Fabrics are coated with polyelectrolyte multilayers containing

organophosphorus hydrolase. The fabrics are usable for self-decontamination of methyl parathion in the environment. The authors sequentially deposited an aqueous branched polyethylenimine solution, a organophosphorus hydrolase solution in a buffer and a branched polyethylenimine solution in a buffer on a woven fiberglass cloth, to obtain the title fabric. In another experiment, a cotton fabric was used as a substrate. The self-cleaning fabrics showed high enzyme activity and good durability.

CC 4-4 (Toxicology)
 Section cross-reference(s): 5
 ST self cleaning fabric **decontamination** organophosphorus pesticide
 IT **Textiles**
 (cotton; on self-cleaning fabrics for **decontamination** of organophosphorus pesticides)
 IT **Decontamination**
 (on self-cleaning fabrics for **decontamination** of organophosphorus pesticides)
 IT Pesticides
 (organophosphorus; on self-cleaning fabrics for **decontamination** of organophosphorus pesticides)
 IT **Glass** fibers, miscellaneous
 RL: MSC (Miscellaneous)
 (woven **cloth**; on self-cleaning fabrics for **decontamination** of organophosphorus pesticides)
 IT **117698-12-1**, Organophosphorus hydrolase
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (on self-cleaning fabrics for **decontamination** of organophosphorus pesticides)
 IT 298-00-0, Methyl parathion
 RL: REM (Removal or disposal); PROC (Process)
 (on self-cleaning fabrics for **decontamination** of organophosphorus pesticides)
 IT **9002-98-6**, Polyethylenimine
 RL: MOA (Modifier or additive use); USES (Uses)
 (stabilizer; on self-cleaning fabrics for **decontamination** of organophosphorus pesticides)
 REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 6 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:30978 CAPLUS

DOCUMENT NUMBER: 142:74718

TITLE: Process for preparation of propyltrichlorosilane by hydrosilylation of propene with trichlorosilane in presence of supported platinum **catalyst** with polymeric membrane

INVENTOR(S): Marciniec, Bogdan; Foltynowicz, Zenon; Checinski, Dariusz

PATENT ASSIGNEE(S): Uniwersytet im. Adama Mickiewicza, Pol.

SOURCE: Pol., 6 pp.
 CODEN: POXXA7

DOCUMENT TYPE: Patent

LANGUAGE: Polish

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PL 185355	B1	20030430	PL 1997-322149	19970915

PRIORITY APPLN. INFO.:

PL 1997-322149

19970915

OTHER SOURCE(S): CASREACT 142:74718

ED Entered STN: 14 Jan 2005

AB Propyltrichlorosilane is prepared by addition reaction of trichlorosilane to propene in presence of a platinum catalyst such that the platinum catalyst used has a polymeric membrane prepared by condensation reaction of methacrylic or acrylic acid, either with a polymerization initiator or directly,

with amino groups on the surface of silica modified by silane on which there is also a platinum complex prepared by immobilization of hexachloroplatinic acid; the reaction takes place at normal pressure in the gas phase at 357-372° with a reagent feed rate through the catalyst of 1.5-4.5 L/h and a volume ratio of propene to trichlorosilane in the reaction mixture of 1.5-2.5. In an example, silica gel (MN-Kieselgel-60) is modified by sequential treatments with (3-chloropropyl)triethoxysilane, hexamethyldisilazane, sodium diethyldithiocarbamate (polymerization initiator), hexachloroplatinic acid, and then photochem. polym. of methacrylic acid to form the polymeric membrane afforded a catalyst which was then used in the gas-phase hydrosilylation of propene at 372 K with trichlorosilane with a reagent feed rate of 1.65 L/h and a reagent volume ratio of 2.0 gave 69-75% conversion of trichlorosilane with a selectivity for propyltrichlorosilane of 100%.

IC ICM C07F007-14

ICS B01J031-28

CC 29-6 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 35, 45

ST process propyltrichlorosilane prepn supported **catalyst**; propene hydrosilylation silica supported platinum **catalyst** polymeric membrane process

IT Hydrosilylation **catalysts**

(platinum; preparation of propyltrichlorosilane by hydrosilylation of propene with trichlorosilane in presence of modified silica-supported platinum **catalyst** with polymeric membrane)

IT Silica gel, preparation

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(reaction products; preparation of propyltrichlorosilane by hydrosilylation of propene with trichlorosilane in presence of modified silica-supported platinum **catalyst** with polymeric membrane)

IT 148-18-5DP, Sodium diethyldithiocarbamate, modified silica-bound
999-97-3DP, Hexamethyldisilazane, modified silica-bound
1760-24-3DP, modified silica-bound 5089-70-3DP,
(3-Chloropropyl)triethoxysilane, modified silica-bound 9003-01-4DP
, Poly(acrylic acid), modified silica-bound 16941-12-1DP,
Hexachloroplatinic acid, silica gel- and polymeric membrane-bound
25087-26-7DP, Poly(methacrylic acid), modified silica-bound
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(preparation of propyltrichlorosilane by hydrosilylation of propene with trichlorosilane in presence of modified silica-supported platinum **catalyst** with polymeric membrane)

IT 141-57-1P, Propyltrichlorosilane

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of propyltrichlorosilane by hydrosilylation of propene with trichlorosilane in presence of modified silica-supported platinum **catalyst** with polymeric membrane)

IT 115-07-1, Propene, reactions 10025-78-2, Trichlorosilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of propyltrichlorosilane by hydrosilylation of propene with

trichlorosilane in presence of modified silica-supported platinum catalyst with polymeric membrane)

IT 148-18-5, Sodium diethyldithiocarbamate 999-97-3, Hexamethyldisilazane 1760-24-3 5089-70-3, (3-Chloropropyl)triethoxysilane 16941-12-1, Hexachloroplatinic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with modified silica surface; preparation of propyltrichlorosilane by hydrosilylation of propene with trichlorosilane in presence of modified silica-supported platinum catalyst with polymeric membrane)

L62 ANSWER 7 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:780930 CAPLUS

DOCUMENT NUMBER: 141:273966

TITLE: The detecting method and device of polypeptide, and the ligand compound comprising nanoparticles
INVENTOR(S): Zou, Fanglin; Chen, Chunsheng; Chen, Ning; Wang, Jianxia

PATENT ASSIGNEE(S): Chengdu Kuachang Medical Industrial Limited, Peop. Rep. China; Chengdu Kuachang Science & Technology Co., Ltd

SOURCE: PCT Int. Appl., 61 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004081571	A1	20040923	WO 2004-CN77	20040120
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CN 1434295	A	20030806	CN 2003-117446	20030313
CN 1514243	A	20040721	CN 2003-117787	20030430
WO 2004090548	A1	20041021	WO 2004-CN203	20040315
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2004102196	A1	20041125	WO 2004-CN437	20040430
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,			

NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

PRIORITY APPLN. INFO.:

CN 2003-117446	A	20030313
CN 2003-117787	A	20030430
WO 2004-CN77	A	20040120
WO 2004-CN203	A	20040315

ED Entered STN: 24 Sep 2004

AB The invention relates to a quant. and/or qual. detecting method of polypeptides, where the objects react with affinity nanocarriers and / or ligands / nanoparticles marked mol. compds. resp. The invention also relates to the detecting device which relates to affinity nanocarriers and / or ligands / nanoparticles / marked mol. compds., especially relates to chips,

enzyme marked plates, chromatog. bands. Moreover, the invention relates to affinity nanocarriers used as detecting and isolating medium, and the method of preparing such carriers. Also, the invention relates to ligands / nanoparticles / marked mol. compds. and the method of preparing such compds. The invention provides chips, kits, detecting method and device which comprise magnetic nanoparticles.

IC ICM G01N033-543

ICS C07K002-00; C12Q001-00

CC 9-1 (Biochemical Methods)

Section cross-reference(s): 10, 14, 15

IT Analytical apparatus

Antibiotics

Biochips

Blood analysis

Cell

Ceramics

Chemiluminescent substances

Chromatography

Dyes

Fluorescent indicators

Hepatitis B virus

Hepatitis C virus

Molecules

Nanoparticles

Plates

Polyelectrolytes

Reaction

Stains, coloring materials

Surfactants

Test kits

Thin layer chromatographs

Virus

(detecting method and device of polypeptide, and the ligand compound comprising nanoparticles)

IT Avidins

Enzymes, uses

Ligands

Polysaccharides, uses

Salts, uses

Vitamins

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(detecting method and device of polypeptide, and the ligand compound)

comprising nanoparticles)
 IT 1344-28-1, Aluminum oxide, analysis 7429-90-5, Aluminum, analysis
 7440-21-3, Silicon, analysis 7440-22-4, Silver, analysis
 7440-50-8, Copper, analysis 7440-57-5, Gold, analysis
 7631-86-9, Silica, analysis 13463-67-7, Titanium oxide, analysis
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (detecting method and device of polypeptide, and the ligand compound
 comprising nanoparticles)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 8 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:757067 CAPLUS
 DOCUMENT NUMBER: 141:246119
 TITLE: Biocatalytic electrode with switchable and tunable
 power output and fuel cell using such electrode
 INVENTOR(S): Katz, Eugenii; Willner, Itamar
 PATENT ASSIGNEE(S): Yissum Research Development Company of the Hebrew
 University of Jerusalem, Israel
 SOURCE: PCT Int. Appl., 44 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004079848	A2	20040916	WO 2004-IL199	20040302
WO 2004079848	A3	20050506		
W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, LC, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 2003-450702P P 20030303

ED Entered STN: 16 Sep 2004

AB The present invention provides a novel electrode carrying on at least a
 portion of its support surface a hybrid polymer matrix (HPM), a catalyst
 that can catalyze a redox reaction and an optional electron mediator group
 that enhances the elec. contact between the HPM and the catalyst, the HPM
 being capable to be electrochem. changed from a non-conductive state to a
 conductive state. The electrode of the invention may be used in elec.
 devices such as fuel cells, thus imparting them switchable and tunable
 properties. The fuel cell of the invention may be used as a power source
 or as a self-powered sensor.

IC ICM H01M008-16

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 9, 38

IT **Enzymes, uses**

RL: CAT (Catalyst use); USES (Uses)

(redox; biocatalytic electrode with switchable and tunable power output
 and fuel cell using such electrode)

IT 7439-89-6, Iron, uses 7439-97-6, Mercury, uses 7440-02-0, Nickel, uses 7440-22-4, Silver, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 7440-66-6, Zinc, uses 9003-01-4, Polyacrylic acid 25104-18-1, Polylysine 50851-57-5
 RL: DEV (Device component use); USES (Uses)
 (biocatalytic electrode with switchable and tunable power output and fuel cell using such electrode)

L62 ANSWER 9 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:433703 CAPLUS

DOCUMENT NUMBER: 141:9611

TITLE: Enzyme immobilization for use in biofuel cells and sensors

INVENTOR(S): Minteer, Shelley D.; Akers, Niki L.; Moore, Christine M.

PATENT ASSIGNEE(S): St. Louis University, USA

SOURCE: U.S. Pat. Appl. Publ., 33 pp., which

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004101741	A1	20040527	US 2003-617452	20030711
CA 2507455	AA	20040617	CA 2003-2507455	20031121
WO 2004051774	A2	20040617	WO 2003-US37336	20031121
WO 2004051774	A3	20041125		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1565957	A2	20050824	EP 2003-812443	20031121
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			US 2002-429829P	P 20021127
			US 2003-486076P	P 20030710
			US 2003-617452	A 20030711
			WO 2003-US37336	W 20031121

OTHER SOURCE(S): MARPAT 141:9611

ED Entered STN: 28 May 2004

AB Disclosed are bioanodes comprising a quaternary ammonium treated Nafion polymer membrane and a dehydrogenase incorporated within the treated Nafion polymer. The dehydrogenase catalyzes the oxidation of an organic fuel and reduces an adenine dinucleotide. The ion conducting polymer membrane lies juxtaposed to a polymethylene green redox polymer membrane, which serves to electro-oxidize the reduced adenine dinucleotide. The bioanode is used in a fuel cell to produce high power densities.

IC ICM H01M004-90

ICS H01M004-96; H01M008-10; C12N011-08

INCL 429043000; 429044000; 429042000; 429030000; 429013000; 435180000

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 7, 38

- IT **Enzymes, uses**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (enzyme immobilization for use in biofuel cells and sensors)
- IT 7439-89-6, Iron, uses 7439-97-6, Mercury, uses 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses 7440-22-4, Silver, uses 7440-33-7, Tungsten, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 7782-42-5, Graphite, uses 11129-18-3, Cerium oxide 12597-68-1, Stainless steel, uses 12612-50-9, Molybdenum sulfide
 RL: MOA (Modifier or additive use); USES (Uses)
 (electron conductor; enzyme immobilization for use in biofuel cells and sensors)
- IT 61-73-4, Methylene blue 92-31-9, Toluidine blue o 92-82-0D, Phenazine, derivs. 92-84-2, Phenothiazine 98-86-2, Acetophenone, uses 135-67-1, Phenoxazine 139-85-5, 3,4-Dihydroxybenzaldehyde 521-31-3, Luminol 531-53-3, Azure A 531-55-5, Azure B 553-24-2, Neutral red 2381-85-3, Nile blue 2679-01-8, Methylene green 3625-57-8, Nile blue A 7440-04-2D, Osmium, phenanthroline dione 9003-01-4, Polyacrylic acid 25013-01-8, Polypyridine 25233-30-1, Polyaniline 25233-34-5, Polythiophene 25265-76-3, Diaminobenzene 27318-90-7, 1,10-Phenanthroline-5,6-dione 30604-81-0, Polypyrrole 37251-80-2, Toluidine blue 38096-29-6, Diaminopyridine 51878-01-4 54258-43-4, 1,10-Phenanthroline-5,6-diol 68455-94-7D, Nitrofluorenone, derivs. 74485-93-1, Poly(difluoroacetylene) 86090-24-6, Brilliant cresyl blue 87257-37-2, Polythionine 103737-36-6, Toluene blue 104934-50-1, Poly(3-hexylthiophene) 126213-51-2, Poly(3,4-ethylenedioxythiophene) 142189-51-3, Poly(thieno[3,4-b]thiophene 150645-85-5, Poly(neutral red) 150645-86-6, Poly(methylene blue) 153312-51-7, Poly(3-(4-fluorophenyl)thiophene 161201-31-6 193265-88-2, Phenothiazin-5-ium, 3-(dimethylamino)-7-(methylamino)-, chloride homopolymer 259737-85-4, Poly(3,4-ethylenedioxyppyrrrole) 308284-47-1, Benzo[alphenoxazin-7-ium, 5-amino-9-(diethylamino)-, sulfate (2:1) homopolymer 692776-93-5
 RL: CAT (Catalyst use); USES (Uses)
 (enzyme immobilization for use in biofuel cells and sensors)
- IT 7631-86-9, **Silica**, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (meso-porous, carbon-modified; enzyme immobilization for use in biofuel cells and sensors)

L62 ANSWER 10 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:119888 CAPLUS

DOCUMENT NUMBER: 140:176638

TITLE: Detoxification of nerve agents by surface
modified enzymes stabilized bynon-covalent immobilization on IDA **silica**INVENTOR(S): Singh, Alok; Pazirandeh, Mehran; Schoen, Paul E.;
 Markowitz, Michael A.; Mauro, J. MatthewPATENT ASSIGNEE(S): The United States of America as Represented by The
 Secretary of America, USA

SOURCE: U.S. Pat. Appl. Publ., 5 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004029243	A1	20040212	US 2000-725309	20001129
US 6869784	B2	20050322		
US 2003211586	A1	20031113	US 2003-436602	20030508

PRIORITY APPLN. INFO.:

US 2000-725309

A3 20001129

ED Entered STN: 13 Feb 2004

AB The present invention provides use of silica surface-immobilized thioesterase for detoxification of nerve agents. Enzymes, such as thioesterase, are modified by incorporating anchor sites for linking the enzymes to a target surface without destroying the catalytic activity of the enzymes. A stable carrier to accommodate and bind the selected enzyme is constructed, and the enzyme is non-covalently linked to the carrier, generally through metal salts of iminodiacetate. The enzymes are genetically engineered to include stabilizing group selected from histidine and polyhistidine. The stabilized enzyme is attached to salt groups selected from the group consisting of metal salts of iminodiacetic acid, metal salts of nitrilotriacetic acid, and mixts. thereof on the surface of a particular inorg. carrier.

IC ICM C12N009-00

ICS C12N011-08

INCL 435183000

CC 4-3 (Toxicology)

Section cross-reference(s): 7

IT Detoxification

(biol.; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA **silica**)

IT Oxides (inorganic), uses

RL: NUU (Other use, unclassified); USES (Uses)

(ceramic particle as carrier for **enzyme**; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA **silica**)

IT Amphiphiles

(copolymn. with amphiphiles containing salts to form vesicles; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA **silica**)

IT Decontamination

Immobilization, molecular or cellular

(detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA **silica**)

IT Enzymes, uses

RL: NUU (Other use, unclassified); USES (Uses)

(detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA **silica**)

IT Protein engineering

(**enzymes**; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA **silica**)

IT Salts, uses

RL: NUU (Other use, unclassified); USES (Uses)

(for linking **enzymes** to **silica** surface; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA **silica**)

IT Chemical warfare agents

(nerve gases; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA **silica**)

IT Mutagenesis

(of thioesterase; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent

- immobilization on IDA silica)
- IT 1304-28-5, Baria, uses 1310-53-8, Germania, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 13463-67-7, Titania, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (ceramic particle as carrier for **enzyme**; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA silica)
- IT 71-00-1, Histidine, uses 26062-48-6, Polyhistidine
 RL: NUU (Other use, unclassified); USES (Uses)
 (**enzyme** stabilizing group comprising; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA silica)
- IT 139-13-9D, Nitrilotriacetic acid, metal salts 142-73-4D, Iminodiacetic acid, alkoxysilane derivs., Cu²⁺ salts 7440-02-0D, Nickel, iminodiacetic or nitrilotriacetic acid salt 7440-48-4D, Cobalt, iminodiacetic or nitrilotriacetic acid salt 7440-50-8D, Copper, iminodiacetic or nitrilotriacetic acid salt 7440-66-6D, Zinc, iminodiacetic or nitrilotriacetic acid salt
 RL: NUU (Other use, unclassified); USES (Uses)
 (for linking **enzymes** to **silica** surface; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA silica)
- IT 58943-36-5, Thioesterase
 RL: NUU (Other use, unclassified); USES (Uses)
 (from *Escherichia coli*; detoxification of nerve agents by surface **modified enzymes** stabilized by non-covalent immobilization on IDA silica)
- REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 11 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:509015 CAPLUS

DOCUMENT NUMBER: 139:188235

TITLE: Direct Patterning of NiB on Glass Substrates Using Microcontact Printing and Electroless Deposition

AUTHOR(S): Geissler, Matthias; Kind, Hannes; Schmidt-Winkel, Patrick; Michel, Bruno; Delamarche, Emmanuel

CORPORATE SOURCE: Zurich Research Laboratory, IBM Research, Rueschlikon, 8803, Switz.

SOURCE: Langmuir (2003), 19(15), 6283-6296

CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 04 Jul 2003

AB The authors investigate direct electroless deposition (ELD) of NiB on glass by microcontact-printing a reagent from an elastomeric stamp onto a glass substrate. There are three variants of this method depending on the reagent to be printed. ELD of a metal on a glass substrate necessitates the pretreatment of the glass with organic linkers that can bind a catalyst from solution. The authors use colloidal Pd/Sn as catalyst and immobilize these particles via an amino-functionalized silane such as 3-(2-aminoethylamino)propyltrimethoxysilane (EDA-Si) grafted to the glass substrate. The first variant includes microcontact-printing EDA-Si onto glass to bind the colloidal Pd/Sn catalyst at well-defined locations on the substrate. Here, the stamp is first hydrophilized with an O₂-based plasma and then inked using different methods that include wet-inking, inking of the silane through the vapor phase, and contact inking. ELD of NiB initiates in those regions of the substrate that were previously

microcontact-printed. This approach entails the problem of inking and printing of an excess of silane, which can be washed away from the printed regions and can thereby induce the ELD of NiB grains adjacent to the desired pattern. In the second approach, the entire glass is uniformly derivatized with EDA-Si, and colloidal Pd/Sn particles are inked onto a stamp and microcontact-printed to activate the substrate where desired. These colloids do not diffuse on the substrate during printing and subsequent steps, allowing the formation of NiB patterns having excellent contrast and accuracy even over areas as large as 4'' in diameter. Similar to the first method, inking and reusing stamps is inconvenient because the colloids are suspended in a solution of concentrated HCl and the stamp needs

to be

hydrophilized and covered with a thin layer of a polyelectrolyte to achieve homogeneous inking of the stamp with these colloids. The third and most promising approach is to derivatize the glass substrate homogeneously with both EDA-Si and Pd/Sn colloids and then deactivate the catalyst selectively prior to the ELD step by microcontact-printing eicosanethiol (ECT). In this case, it is possible to employ hydrophobic PDMS stamps, to reuse them, to optimize the inking and printing conditions, and to form high-quality NiB structures with lateral dimensions ranging from several hundred to below 1 μm . This work suggests that microcontact printing (μCP) and ELD can be combined in a variety of manners to provide interesting alternatives to conventional microfabrication methods that otherwise include the deposition of metals in a vacuum process and patterning methods based on photolithog.

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Aluminoborosilicate glasses

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)

(alkaline earth aluminoborosilicate, substrate; patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)

IT Silicone rubber, processes

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(di-Me, Sylgard 184, stamp; patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)

IT Coating process

(electroless; patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)

IT Lithography

(microcontact; patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)

IT Glass substrates

(patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)

IT Polyelectrolytes

(stamp treatment; patterning of NiB by microcontact printing of **catalyst** on glass substrate modified with amino-functionalized silane followed by electroless deposition)

IT 7440-05-3, Palladium, processes 7440-31-5, Tin, processes

RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(colloidal dispersion; patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed

- by electroless deposition)
- IT 13373-97-2, 1-Eicosanethiol
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
 (deactivator; patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)
- IT 919-30-2, (3-Aminopropyl)triethoxysilane 1067-25-0D, Propyltrimethoxysilane, polyethyleneimine-modified with 3069-29-2, 3(2-Aminoethylamino)propylmethyldimethoxysilane 3179-76-8, 3-Aminopropylmethyldiethoxysilane **9002-98-6D**, trimethoxysilylpropyl-modified 13497-18-2, Bis-[(3-triethoxysilyl)propyl]amine 41051-80-3, (3-Diethylaminopropyl)trimethoxy silane 74956-86-8, N,N-Bis-[(3-trimethoxysilyl)propyl]ethylenediamine
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
 (linker; patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)
- IT **1760-24-3**, 3-(2-Aminoethylamino)propyltrimethoxysilane
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (linker; patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)
- IT 11099-25-5P 94117-24-5P
 RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PYP (Physical process); PREP (Preparation); PROC (Process)
 (patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)
- IT 69898-76-6, Niposit 468
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
 (patterning of NiB by microcontact printing of linker or **catalyst** or deactivator on glass substrate followed by electroless deposition)
- IT 61840-27-5, Cartaretin F4
 RL: NUU (Other use, unclassified); USES (Uses)
 (stamp treatment; patterning of NiB by microcontact printing of **catalyst** on glass substrate modified with amino-functionalized silane followed by electroless deposition)

REFERENCE COUNT: 95 THERE ARE 95 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 12 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:978586 CAPLUS
 DOCUMENT NUMBER: 138:35773
 TITLE: Methods and compositions for directed microwave chemistry for accelerating chemical reactions
 INVENTOR(S): Martin, Mark
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 30 pp., Cont.-in-part of U.S. Provisional Ser. No. 237,192.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 4
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002197645	A1	20021226	US 2001-968517	20011002
US 2003082633	A1	20030501	US 2002-234092	20020905
US 2004209303	A1	20041021	US 2004-842512	20040511
US 2005191708	A1	20050901	US 2005-105460	20050414

PRIORITY APPLN. INFO.:
 US 2000-237192P P 20001003
 US 2001-968517 A2 20011002
 US 2002-234092 A2 20020905

ED Entered STN: 29 Dec 2002

AB The present invention concerns a novel means by which specific chosen reactions can be accelerated through the use of a new type of artificial enzyme. The invention allows specific reactions to occur at an accelerated rate, even in the presence of other non-chosen mols., which may be very similar in structure to the chosen reactant. The reactions may be stoichiometric or catalytic. Microwave energy is used to specifically accelerate chosen chemical reactions. The microwaves are directed to lossy materials that contain specific binding sites for the desired reactant (e.g., antigen, oligonucleotide, receptor ligand, enzyme substrate). Barium titanate, activated charcoal, and Bentonite clay gave microwave-targeted accelerated chemiluminescent reactions.

IC ICM G01N033-53
 ICS C08K003-00

INCL 435007100; 204157680

CC 9-16 (Biochemical Methods)
 Section cross-reference(s): 7

IT Antibodies and Immunoglobulins
Enzymes, uses
 Zeolites (synthetic), uses
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
 (reactant-binding, composite with solid susceptible to dielec. heating; directed microwave chemical for accelerating (bio)chemical reactions)

IT **Enzymes, uses**
 RL: CAT (Catalyst use); USES (Uses)
 (synthetic; directed microwave chemical for accelerating (bio)chemical reactions)

IT 7439-89-6, Iron, uses 7440-03-1, Niobium, uses 7440-50-8, Copper, uses 12070-06-3, Tantalum carbide (TaC) 12136-78-6, Molybdenum silicide (MoSi₂)
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)
 (mixture with insulator, susceptible to dielec. heating and containing specific binding agent for reactant; directed microwave chemical for accelerating (bio)chemical reactions)

IT 9003-01-4D, Acrylic acid polymer, compds. 9003-05-8, Polyacrylamide 9003-70-7, Poly(styrene-divinyl benzene) 9004-54-0D, Dextran, crosslinked, uses 9012-36-6, Agarose
 RL: TEM (Technical or engineered material use); USES (Uses)
 (thermally-insulating coating; directed microwave chemical for accelerating (bio)chemical reactions)

L62 ANSWER 13 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:793841 CAPLUS

DOCUMENT NUMBER: 137:307013

TITLE: Non-enzymatic liposome-linked closely spaced array electrodes assay (NEL-ELA) for detecting and quantifying nucleic acids

INVENTOR(S): Bredehorst, Reinhard; Hintsche, Rainer; Heuberger, Anton

PATENT ASSIGNEE(S): Fraunhofer-Gesellschaft zur Foerderung der Angewandten
Forschung e.V., Germany
SOURCE: PCT Int. Appl., 124 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002081739	A2	20021017	WO 2002-EP3892	20020408
WO 2002081739	A3	20040129		
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1409728	A2	20040421	EP 2002-735236	20020408
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				

PRIORITY APPLN. INFO.: US 2001-282164P P 20010409
WO 2002-EP3892 W 20020408

ED Entered STN: 18 Oct 2002

AB The invention concerns target nucleic acids or amplicons thereof bound to immobilized capture oligonucleotides by mol. biol. reactions, are detected and quantified with affinity liposomes containing encapsulated electrochem. detectable reporter mols. susceptible to redox recycling and surface-attached affinity components capable of specifically binding to captured target nucleic acids or amplicons thereof in a structure restricted manner. Specifically bound affinity liposomes are lysed by temperature- or detergent-mediated mechanisms and released reporter mols. are quantitated via redox recycling using voltammetry in conjunction with a closely spaced array of thin film noble metal electrodes. The quantity of released reporter mols. is a proportional measure of the quantity of target nucleic acids in the sample. For amplified assay procedures polymeric carrier mols. capable of binding multiple affinity liposomes or preformed complexes of affinity liposomes are utilized.

IC ICM C12Q001-68

ICS G01N027-49

CC 9-16 (Biochemical Methods)

Section cross-reference(s): 7

IT **Enzymes, uses**

RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)

(inhibitors; non-enzymic liposome-linked closely spaced array electrodes assay (NEL-ELA) for detecting and quantifying nucleic acids)

IT **Enzymes, uses**

Oligonucleotides

RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)

(non-enzymic liposome-linked closely spaced array electrodes assay (NEL-ELA) for detecting and quantifying nucleic acids)

IT 9002-89-5, Polyvinyl alcohol 9003-01-4, Polyacrylic acid

9003-39-8, Polyvinylpyrrolidinone

RL: NUU (Other use, unclassified); USES (Uses)

(as carrier mols.; non-enzymic liposome-linked closely spaced array electrodes assay (NEL-ELA) for detecting and quantifying nucleic acids)

IT 50-67-9, Serotonin, uses 50-76-0, Actinomycin D 51-61-6, Dopamine,

uses 54-16-0, uses 66-97-7, Psoralen 120-12-7, Anthracene, uses

120-72-9, Indole, uses 120-80-9, Catechol, uses 123-30-8,

p-Aminophenol 229-87-8, Phenanthridine 260-94-6, Acridine 288-32-4,

Imidazole, uses 495-99-8, Hydroxystilbamidine 7439-89-6, Iron, uses 7440-04-2, Osmium, uses 7440-18-8, Ruthenium, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 29249-00-1, Methoxytyramine

RL: NUU (Other use, unclassified); USES (Uses)
(non-enzymic liposome-linked closely spaced array electrodes assay (NEL-ELA) for detecting and quantifying nucleic acids)

L62 ANSWER 14 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:578703 CAPLUS

DOCUMENT NUMBER: 137:348377

TITLE: The steady-state current at microcylinder electrodes **modified by enzymes** immobilized in conducting or non-conducting **material**

AUTHOR(S): Somasundrum, M.; Aoki, K.

CORPORATE SOURCE: Faculty of Engineering, Department of Applied Physics, Fukui University, Fukui-shi, 910-8507, Japan

SOURCE: Journal of Electroanalytical Chemistry (2002), 530(1-2), 40-46
CODEN: JECHES

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 05 Aug 2002

AB A diffusion-kinetic model is presented for an enzyme-modified microcylinder electrode, where the enzyme reaction generates an electro-active product. Simple, approx. expressions are derived for the steady-state current in cases where the enzyme is immobilized in a metallically conducting matrix or a non-conducting matrix. The model is also extended to the case of a chemical sensor, which involves a conducting polymer without enzyme. The model is used to analyze steady-state signals for glucose produced by Pt-coated carbon fibers, on which glucose oxidase has been entrapped in poly(1,2-diaminobenzene).

CC 7-7 (Enzymes)

IT Electric current
(biol.; diffusion-kinetic model addresses steady-state current at microcylinder electrodes **modified by enzymes** immobilized in conducting or non-conducting **material**)

IT Carbon fibers, uses

RL: NUU (Other use, unclassified); USES (Uses)
(diffusion-kinetic model ests. kinetic parameters for glucose oxidase in poly(1,2-diaminobenzene) films on Pt-coated carbon fibers)

IT Sensors

(electrochem.; diffusion-kinetic model addresses steady-state current for conducting polymer-based **chemical** sensor)

IT Microelectrodes

(**enzyme**; diffusion-kinetic model addresses steady-state current at microcylinder electrodes **modified by enzymes** immobilized in conducting or non-conducting **material**)

IT Immobilization, molecular or cellular

(enzyme; diffusion-kinetic model ests. kinetic parameters for glucose oxidase in poly(1,2-diaminobenzene) films on Pt-coated carbon fibers)

IT **Enzymes**, properties

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(immobilized; diffusion-kinetic model addresses steady-state current at microcylinder electrodes **modified by enzymes** immobilized in conducting or non-conducting **material**)

IT **Enzyme** electrodes
(microelectrodes; diffusion-kinetic model addresses steady-state current at microcylinder electrodes **modified by enzymes** immobilized in conducting or non-conducting **material**)

IT 7722-84-1, Hydrogen peroxide, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(diffusion-kinetic model addresses H2O2-mediated current at microcylinder electrodes **modified by enzymes** immobilized in conducting or non-conducting **material**)

IT 9001-37-0, Glucose oxidase
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(diffusion-kinetic model ests. kinetic parameters for glucose oxidase in poly(1,2-diaminobenzene) films on Pt-**coated** carbon fibers)

IT 7440-06-4, Platinum, uses 25667-98-5, Poly(1,2-diaminobenzene)
RL: NUU (Other use, unclassified); USES (Uses)
(diffusion-kinetic model ests. kinetic parameters for glucose oxidase in poly(1,2-diaminobenzene) films on Pt-**coated** carbon fibers)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 15 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:51559 CAPLUS

DOCUMENT NUMBER: 136:119418

TITLE: Modifying the surface of a substrate containing a polymeric material, vaporizing surface modifying agent onto a substrate, and apparatus

INVENTOR(S): Filippou, Con; Gutowski, Wojciech Stanislaw; Proctor, David; Spicer, Mark

PATENT ASSIGNEE(S): Commonwealth Scientific and Industrial Research Organisation, Australia

SOURCE: PCT Int. Appl., 73 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004552	A1	20020117	WO 2001-AU814	20010706
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 2002018860	A1	20020214	US 2001-780623	20010212
US 6706320	B2	20040316		
US 2004115354	A1	20040617	US 2003-700444	20031105
PRIORITY APPLN. INFO.:			AU 2000-8590	A 20000706
			US 2001-780623	A 20010212

ED Entered STN: 18 Jan 2002

AB The modifying process comprises providing a solution of the surface modifying agent (e.g. crosslinkers, coupling agents, etc.) in a solvent or a surface

modifying agent composition and optionally a carrier and subjecting the solution

to a zone of elevated temperature to vaporize the solvent or to vaporize the surface modifying agent composition and provide diffuse contact between the surface modifying agent and the surface of the substrate. Lupasol G 35 was used as a surface modifying agent in the treatment of automotive bumpers for enhanced adhesion to painting.

IC ICM C08J007-12

ICS C09J005-02; B05D003-00; B05D005-04

CC 38-2 (Plastics Fabrication and Uses)

IT Burners

(vaporizing chems.; for modifying surface of an automotive substrate containing a polymeric material)

IT 1760-24-3, Z-6020 9002-98-6, Lupasol G 35 26336-38-9,

Poly(vinylamine) 30551-89-4, Poly(allylamine)

RL: TEM (Technical or engineered material use); USES (Uses)

(for modifying surface of an automotive substrate containing a polymeric material)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 16 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:918926 CAPLUS

DOCUMENT NUMBER: 136:44556

TITLE: Microchip-based carbon dioxide gas sensor

INVENTOR(S): Lee, Jae Seon; Shin, Jae Ho; Lee, Min Hyung; Nam, Hakhyun; Cha, Geun Sig

PATENT ASSIGNEE(S): I-Sens, Inc., S. Korea

SOURCE: Eur. Pat. Appl., 20 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1164372	A2	20011219	EP 2001-113705	20010602
EP 1164372	A3	20040519		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 2002011408	A1	20020131	US 2001-877857	20010608
US 6746583	B2	20040608		

PRIORITY APPLN. INFO.: KR 2000-32050 A 20000612

ED Entered STN: 21 Dec 2001

AB There is provided a microchip-based differential-type carbon dioxide gas sensor for detecting dissolved carbon dioxide levels. It functions with at least one working electrode composed of an unbuffered hydrogel membrane containing a certain amount of sodium bicarbonate and a pH-sensitive gas-permeable membrane; and a reference electrode composed of a buffered hydrogel membrane and a pH-sensitive gas-permeable membrane. The unbuffered hydrogel membrane contains carbonic anhydrase, which reduces the time period for the hydration of carbon dioxide, thereby allowing the quick measurement of the level of carbon dioxide. In addition to being significantly improved in stabilization, sensing, and recovering time periods, the differential-type carbon dioxide gas sensor can be fabricated in small sizes and quickly measure levels of carbon dioxide dissolved in sample solution

IC G01N027-416

CC 72-3 (Electrochemistry)

Section cross-reference(s): 6, 79

- IT Hydration, **chemical**
(of carbon dioxide in microchip-based carbon dioxide gas sensor)
- IT 9002-18-0, Agar 9002-89-5, Polyvinyl alcohol **9003-01-4**,
Polyacrylic acid 9003-39-8, Polyvinylpyrrolidone 9004-62-0,
Hydroxyethyl cellulose 9004-65-3, Hydroxypropylmethyl cellulose
9011-14-7, Polymethylmethacrylate 79484-92-7, Methocel
RL: NUJ (Other use, unclassified); USES (Uses)
(use as hygroscopic material in microchip-based carbon dioxide gas
sensor with pH sensitive hydrogel membrane)
- IT **1760-24-3**, N-[3-(Trimethoxysilyl)propyl]ethylene diamine
RL: NUJ (Other use, unclassified); USES (Uses)
(use as pH sensitive gas permeable membrane in microchip-based carbon
dioxide gas sensor)

L62 ANSWER 17 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:833647 CAPLUS

DOCUMENT NUMBER: 135:355028

TITLE: Method for the immobilization of recognition
substances using electrodeposition and application to
sensor preparation

INVENTOR(S): Schuhmann, Wolfgang

PATENT ASSIGNEE(S): Asulab S.A., Switz.

SOURCE: PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001086298	A1	20011115	WO 2001-CH279	20010508
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
DE 10022750	A1	20011122	DE 2000-10022750	20000510
CA 2408470	AA	20021108	CA 2001-2408470	20010508
EP 1282819	A1	20030212	EP 2001-925266	20010508
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
JP 2003532897	T2	20031105	JP 2001-583191	20010508
US 2003153061	A1	20030814	US 2002-275698	20021108
PRIORITY APPLN. INFO.:			DE 2000-10022750	A 20000510
			WO 2001-CH279	W 20010508

ED Entered STN: 16 Nov 2001

AB The invention concerns cathodic or anodic electro-polymers. where sensor substances are deposited onto the metal surface along with the polymer layer, thus enzyme electrodes, arrays of sensor mols. are prepared Charged monomers are deposited also by changes of the pH. Polymers are carboxy-group containing homopolymers, or copolymers; recognition substances are enzymes, antibodies, antigens, haptens, oligonucleotides, peptides, proteins, lecithins, hormones, latex beads etc. Thus a glucose sensor was prepared by depositing onto a platinum electrode an electrodeposition resin

and glucose oxidase.

IC ICM G01N033-543
ICS C12Q001-68; B01J019-00; C12Q001-00; G01N033-545

CC 9-16 (Biochemical Methods)
Section cross-reference(s): 3

IT Antibodies
Antigens
DNA
Enzymes, uses
Haptens
Hormones, animal, uses
Lecithins
Oligonucleotides
Peptides, uses
Proteins, general, uses
RNA
Receptors
RL: ARG (Analytical reagent use); DEV (Device component use); ANST
(Analytical study); USES (Uses)
(method for immobilization of recognition substances using
electrodeposition and application to sensor preparation)

IT 79-10-7D, Acrylic acid, copolymers 1314-13-2, Zinc oxide, uses
7439-88-5, Iridium, uses 7439-97-6, Mercury, uses 7440-04-2, Osmium,
uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-15-5,
Rhenium, uses 7440-18-8, Ruthenium, uses 7440-22-4, Silver, uses
7440-50-8, Copper, uses 7440-57-5, Gold, uses 7782-42-5,
Graphite, uses 9003-01-4, Acrylic acid homopolymer 13463-67-7,
Titanium dioxide, uses
RL: DEV (Device component use); USES (Uses)
(method for immobilization of recognition substances using
electrodeposition and application to sensor preparation)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 18 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:370076 CAPLUS

DOCUMENT NUMBER: 135:195837

TITLE: Synthesis and applications of bis(perfluorodecalin-1-carbonyl) peroxide

AUTHOR(S): Sawada, H.; Kurachi, M.; Takishita, K.; Tanedani, T.;
Terasawa, N.; Hayakawa, Y.; Kawase, T.

CORPORATE SOURCE: Department of Chemistry, Nara National College of
Technology, Nara, Yamatokoriyama, Yata, 639-1080,
Japan

SOURCE: European Polymer Journal (2001), 37(7), 1409-1415
CODEN: EUPJAG; ISSN: 0014-3057

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 23 May 2001

AB New bis(perfluorodecalin-1-carbonyl) peroxide (PFDC-PO) was prepared by the
reaction of hydrogen peroxide with perfluorodecalin-1-carbonyl chloride,
obtained from the chlorination of the corresponding carboxylic acid and
phosphorus oxychloride in the presence of DMF. A kinetic study showed
that PFDC-PO decomp. homolytically with a three-bond fission.
Heptadecafluorodecahydro-1-naphthyl (F-DECALYL) end-capped oligomers were
prepared by the reaction of PFDC-PO with monomers such as acrylic acid
(ACA), N,N-dimethylacrylamide (DMAA), 3-methacryloxy-2-
hydroxypropyltrimethylammonium chloride, and N-(1,1-dimethyl-3-
oxobutyl)acrylamide (DOBAA) via a radical process. Interestingly, these

F-DECALYL end-capped oligomers obtained were soluble in water and common organic solvents, although parent perfluorodecalin is insol. in water and common organic solvents except hexane. F-DECALYL end-capped ACA oligomer was easily soluble in water and reduced the surface tension of water effectively. Addnl., F-DECALYL end-capped ACA oligomer was found to enhance dramatically luminol chemiluminescence light yield compared to the corresponding linear fluoroalkylated ACA oligomer. F-DECALYL end-capped DMAA and DOBAA oligomers were insol. in water; however, these oligomers were soluble in common organic solvents. Especially, F-DECALYL end-capped

DOBAA

oligomer was found to form a monomol. film at the air-water interface.

CC 35-3 (Chemistry of Synthetic High Polymers)

ST polymn **catalyst** bis perfluorodecalin carbonyl peroxide prepn;
kinetics decompn **catalyst** bis perfluorodecalin carbonyl
peroxide; luminol chemiluminescence enhancement perfluorodecalin
end capped oligomer

IT Decomposition kinetics

Polymerization **catalysts**

Solubility

Surface pressure-area isotherms

Surface tension

(synthesis and applications of bis(perfluorodecalin-1-carbonyl)
peroxide)

IT **9003-01-4P**, Acrylic acid homopolymer 25609-94-3P,
3-Methacryloxy-2-hydroxypropyltrimethylammonium chloride homopolymer
25897-89-6P, Poly[N-(1,1-Dimethyl-3-oxobutyl)acrylamide] 26793-34-0P,
N,N-Dimethylacrylamide homopolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and applications of bis(perfluorodecalin-1-carbonyl)
peroxide)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 19 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:265492 CAPLUS

DOCUMENT NUMBER: 134:304229

TITLE: Three dimensional array crosslinked films and methods
of making such films

INVENTOR(S): Raguse, Burkhard; Braach-Maksvytis, Vijoleta Lucija
Bronislava

PATENT ASSIGNEE(S): Commonwealth Scientific and Industrial Research
Organisation, Australia

SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2001025316	A1	20010412	WO 2000-AU1210	20001005
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,			
	CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,			
	ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,			
	LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,			
	SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,			
	ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,			

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 CA 2386241 AA 20010412 CA 2000-2386241 20001005
 EP 1244731 A1 20021002 EP 2000-969074 20001005
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL
 JP 2003511251 T2 20030325 JP 2001-528479 20001005
 AU 777998 B2 20041111 AU 2000-78902 20001005
 PRIORITY APPLN. INFO.: AU 1999-3264 A 19991005
 WO 2000-AU1210 W 20001005

ED Entered STN: 13 Apr 2001

AB The nanoparticle film comprises a 3 dimensional crosslinked array of nanoparticles and linker mols. The nanoparticle film is coherent, robust and self supporting. The film may be produced by adding linker mols. to a suspension of nanoparticles. The linker mols. form crosslinks between the nanoparticles. Prior to completion of the crosslinking reaction the crosslinked nanoparticles are separated from the suspension. Polyacrylic acid-crosslinked titania nanoparticle film (membrane supported) layer was deposited between 2 cystamine hydrochloride-crosslinked Au nanoparticle film layers to give a trilayer structure behaving as a capacitor.

IC ICM C08J005-18

ICS C08F006-12; C30B001-02; H01L021-20

CC 76-10 (Electric Phenomena)

IT DNA

Enzymes, uses

Fullerenes

Polymers, uses

Porphyrins

Proteins, general, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(linkers; self-supporting crosslinked nanoparticle films)

IT 56-17-7, Cystamine hydrochloride 107-15-3, 1,2-Ethylenediamine, uses

1191-62-4, 1,8-Octanedithiol 1892-29-1 1910-42-5, Methylviologen

9003-01-4, Polyacrylic acid 152996-47-9, 1,15-Pentadecanedithiol

333971-30-5 333971-31-6 333971-32-7

RL: TEM (Technical or engineered material use); USES (Uses)

(linker; self-supporting crosslinked nanoparticle films)

IT 1303-00-0, Gallium arsenide (GaAs), uses 1306-23-6, Cadmium sulfide

(CdS), uses 1306-24-7, Cadmium selenide (CdSe), uses 1306-25-8,

Cadmium telluride (CdTe), uses 1314-13-2, Zinc oxide (ZnO), uses

1314-87-0, Lead sulfide (PbS) 1314-98-3, Zinc sulfide (ZnS), uses

1315-09-9, Zinc selenide (ZnSe) 7439-89-6, Iron, uses 7440-05-3,

Palladium, uses 7440-06-4, Platinum, uses 7440-21-3, Silicon, uses

7440-22-4, Silver, uses 7440-48-4, Cobalt, uses 7440-50-8,

Copper, uses 7440-57-5, Gold, uses 12781-95-2 13463-67-7, Titania,

uses 22398-80-7, Indium phosphide (InP), uses 50926-11-9, Indium tin oxide

RL: TEM (Technical or engineered material use); USES (Uses)

(self-supporting crosslinked nanoparticle films)

IT 9002-98-6

RL: TEM (Technical or engineered material use); USES (Uses)

(support; self-supporting crosslinked nanoparticle films)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 20 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:790686 CAPLUS

DOCUMENT NUMBER: 133:331759

TITLE: Method for detecting biological agents

INVENTOR(S): Chen, Liaohai; Mcbranch, Duncan W.; Wang, Hsing-Lin;

Whitten, David G.
 PATENT ASSIGNEE(S): The Regents of the University of California, USA
 SOURCE: PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000066790	A1	20001109	WO 2000-US12423	20000504
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2340905	AA	20001109	CA 2000-2340905	20000504
EP 1097242	A1	20010509	EP 2000-928892	20000504
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6589731	B1	20030708	US 2000-565589	20000504
AU 782254	B2	20050714	AU 2000-47058	20000504
PRIORITY APPLN. INFO.:			US 1999-132556P	P 19990505
			WO 2000-US12423	W 20000504

ED Entered STN: 10 Nov 2000

AB A sensor is provided including a polymer capable of having an alterable measurable property from the group of luminescence and elec. conductivity, the polymer having an intermediate combination of a recognition element, a tethering element and a property-altering element bound thereto and capable of altering the measurable property, the intermediate combination adapted for subsequent separation from the polymer upon exposure to an agent having an affinity for binding to the recognition element whereupon the separation of the intermediate combination from the polymer results in a detectable change in the alterable measurable property, and, a means of detecting said detectable change in the alterable measurable property.

IC ICM C12Q001-68

ICS C12Q001-70; G01N021-64; G01N033-00; G01N033-53; G01N033-531; G01N033-533; G01N033-543; C07H021-02; C07H021-04; C12N015-00; B05D001-18; B01J013-00

CC 9-1 (Biochemical Methods)

IT Affinity

Bacteria (Eubacteria)

Biosensors

Cell

Dissolution

Electric conductivity

Energy transfer

Fluorescence

Fluorescent dyes

Fluorometry

Luminescence

Luminescence spectroscopy

Microorganism

Optical fibers

Polyelectrolytes

Sensors
 Separation
 Solutions
 Test kits
 Virus
 (method for detecting biol. agents)

IT Antibodies
 Antigens
 Coordination compounds
Enzymes, uses
 Glycolipids
 Nucleic acids
 Oligonucleotides
 Peptide nucleic acids
 Plastics, uses
 Poly(arylenealkenylenes)
 Polyacetylenes, uses
 Polydiacetylenes
 Polymers, uses
 Polysaccharides, uses
 Proteins, general, uses
 Toxins

RL: DEV (Device component use); USES (Uses)
 (method for detecting biol. agents)

IT 58-85-5, Biotin 71-00-1D, Histidine, copper complex 1910-42-5, Methyl
 viologen **7440-50-8D**, Copper, histidine complex, uses
 9033-83-4, Polyphenylene 9055-67-8D, Poly(ADP-ribose) polymerase,
 DNA-binding domain 25067-54-3, Polyfuran 25067-54-3D, Polyfuran,
 derivs. 25067-58-7, Polyacetylene 25067-59-8, Polyvinyl carbazole
 25067-59-8D, Polyvinyl carbazole, derivs. 25233-30-1, Polyaniline
 25233-30-1D, Polyaniline, derivs. 25233-34-5, Polythiophene
 26009-24-5, Poly(p-phenylene vinylene) 30604-81-0, Polypyrrole
 30604-81-0D, Polypyrrole, derivs. 37758-47-7, Ganglioside GM1
 78675-98-6, Squaraine 96638-49-2, Poly(phenylene vinylene)
 96638-49-2D, Poly(phenylene vinylene), derivs. 103419-76-7,
 Poly(1,4-naphthalenediyl-1,2-ethenediyl) 125714-86-5 164658-06-4,
 Poly(2,5-pyridinediyl-1,2-ethenediyl) 189145-97-9, Poly(pyridinediyl-1,2-
 ethenediyl)

RL: DEV (Device component use); USES (Uses)
 (method for detecting biol. agents)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 21 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:720661 CAPLUS
 DOCUMENT NUMBER: 134:53120
 TITLE: Adsorption of trypsin on silica-polymethylsiloxane and
 its modified forms
 AUTHOR(S): Denisova, T. I.; Karpenko, G. F.; Khalyavka, T. A.;
 Shvets, D. I.
 CORPORATE SOURCE: Inst. Sorbtsii i Problem Endoekologii, NAN Ukrainy,
 Kiev, Ukraine
 SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition)
 (2000), 66(1-2), 103-106
 CODEN: UKZHAU; ISSN: 0041-6045
 PUBLISHER: Institut Obshchei i Neorganicheskoi Khimii im. V. I.
 Vernadskogo NAN Ukrainy
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 ED Entered STN: 13 Oct 2000

- AB Adsorption-desorption of trypsin in aqueous salt solns. by organosilica sorbent and its Cu(II)-modified forms were examined. It was demonstrated that modification in the studied conditions do not change porous structure parameters of the silica-polymethylsiloxane sorbent. It was noticed that Cu(II) present in composition of the sorbent increase adsorption and decelerate trypsin desorption into the aqueous salt solns.
- CC 7-7 (Enzymes)
- IT Immobilization, biochemical
(**enzyme**; adsorption-desorption of trypsin on **silica**-polymethylsiloxane sorbent and Cu(II)-**modified** forms)
- IT **7440-50-8D**, Copper, reaction products with silica-polymethylsiloxane, properties
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(adsorption-desorption of trypsin on silica-polymethylsiloxane sorbent and Cu(II)-modified forms)
- L62 ANSWER 22 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN
- ACCESSION NUMBER: 1999:727759 CAPLUS
- DOCUMENT NUMBER: 132:36099
- TITLE: Preparation of perfluoroheptyl **end-capped** poly(acrylic acid) and surface tension of its aqueous solution
- AUTHOR(S): Luo, Xiangdong; Li, Ruixia; Wu, Dacheng; Hsu, Shaw Ling
- CORPORATE SOURCE: Textile College, Sichuan University, Chengdu, 610065, Peop. Rep. China
- SOURCE: Gaofenzi Xuebao (1999), (5), 623-626
CODEN: GAXUE9; ISSN: 1000-3304
- PUBLISHER: Kexue Chubanshe
- DOCUMENT TYPE: Journal
- LANGUAGE: Chinese
- ED Entered STN: 17 Nov 1999
- AB Five samples of perfluoroheptyl end-capped poly(acrylic acid) (FPAA) having a high surface activity were prepared by free radical polymerization of acrylic acid. The initiator was perfluorooctanoyl peroxide which produced the free radical of heptyl at 45°. The yields of FPAA were in the range of 10% to 25%. The weight-average mol. wts. were 2.62×10^4 to 7.99×10^4 and the polydispersity indexes were 1.97 to 5.64, depending on the concentration of the initiator in the monomer. The surface tension was about 15 mN/m at 30° for the aqueous solution of FPAA with the weight-average mol. weight 2.62×10^4 in the concentration of about 0.01 g/mL. The mol. areas of FPAA at the air-water interface under the condition of critical micelle concentration were 3.2-4.6 nm², which are obviously larger than the area per mol. of perfluorooctanoic acid (2.14 nm²) and much smaller than that of ordinary polyacrylic acid (83.4 nm²). The polymer mols. in the surface adsorbed layer form the brush structure because of the special effect of the perfluoroalkyl groups at the chain ends.
- CC 35-4 (Chemistry of Synthetic High Polymers)
- IT Molecular weight
Viscosity
(preparation and properties of perfluoroheptyl **end-capped** poly(acrylic acid))
- IT Polyelectrolytes
Surface tension

(preparation of perfluoroheptyl **end-capped** poly(acrylic acid) and surface tension of its aqueous solution)

IT Polymerization
Polymerization **catalysts**
(radical; preparation of perfluoroheptyl **end-capped** poly(acrylic acid) and surface tension of its aqueous solution)

IT 34434-27-0
RL: CAT (Catalyst use); USES (Uses)
(initiator; preparation of perfluoroheptyl **end-capped** poly(acrylic acid) and surface tension of its aqueous solution)

IT **9003-01-4DP**, Poly(acrylic acid), perfluoroheptyl-terminated 34434-27-0DP, reaction products with poly(acrylic acid)
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of perfluoroheptyl **end-capped** poly(acrylic acid) and surface tension of its aqueous solution)

L62 ANSWER 23 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:398403 CAPLUS

DOCUMENT NUMBER: 129:38129

TITLE: Polyphenol-oxidizing enzymes-containing composition and methods for treating porous article

INVENTOR(S): Echigo, Takashi; Ohno, Ritsuko

PATENT ASSIGNEE(S): Showa Denko K.K., Japan; Echigo, Takashi; Ohno, Ritsuko

SOURCE: PCT Int. Appl., 72 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9824890	A1	19980611	WO 1997-JP3798	19971021
W: AU, BR, CA, CN, ID, KR, NO, NZ, RU, SG, US, VN				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 10218999	A2	19980818	JP 1997-142386	19970530
CA 2274248	AA	19980611	CA 1997-2274248	19971021
AU 9745746	A1	19980629	AU 1997-45746	19971021
AU 736563	B2	20010802		
EP 953634	A1	19991103	EP 1997-944193	19971021
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
NZ 336135	A	20000929	NZ 1997-336135	19971021
NO 9902742	A	19990806	NO 1999-2742	19990604
US 2003017565	A1	20030123	US 1999-319384	19990604
PRIORITY APPLN. INFO.:			JP 1996-327252	A 19961206
			JP 1997-142386	A 19970530
			WO 1997-JP3798	W 19971021

ED Entered STN: 29 Jun 1998

AB Disclosed is a method for treating a porous article to increase its mol. weight by coating or impregnating with a composition containing an enzyme having a polyphenol oxidation activity in an alkaline pH region, a phenolic compound, and/or an aromatic amine compound. The process is to improve its property such as strength, abrasion resistance, weather resistance, rust resistance, flame retardancy, antimicrobial property, preservative property, germicidal property, insecticidal property, insect repellency, antiviral property, biol. repellency, adhesion, sustained release of chems., coloring,

dimensional stability, cracking resistance, deodorant property, deoxygenation, humidification, water absorption, water repellency, surface smoothness, biol. affinity, ion exchange property, and formaldehyde absorption. The process also prevents chemical leaching and inorg. compds. from migrating onto the surface of the porous article. Polyphenol oxidase prepared from *Myrothecium verrucaria* was mixed with lignin sulfonate, cupric sulfate, ethylene diamine, and other compds. such as hinokitiol for the impregnation of cedar wood blocks at >pH 8 was demonstrated.

IC ICM C12N009-02

CC 7-8 (Enzymes)

Section cross-reference(s): 38, 43

IT **Enzymes, uses**

RL: CAT (Catalyst use); NUU (Other use, unclassified); USES (Uses)

(polyphenol-oxidizing; polyphenol-oxidizing enzymes-containing composition

and

methods for treating porous article)

IT 57-06-7, Allyl isothiocyanate 91-20-3D, Naphthalene, derivs., uses 533-75-5, Tropolone 7429-90-5, Aluminum, uses 7439-95-4, Magnesium, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-22-4, Silver, uses 7440-38-2, Arsenic, uses 7440-42-8, Boron, uses 7440-47-3, Chrome, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses 8062-15-5, Lignin sulfonate 9002-98-6 9005-53-2, Lignin, uses 25322-68-3

RL: MOA (Modifier or additive use); USES (Uses)

(polyphenol-oxidizing enzymes-containing composition and methods for

treating

porous article)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 24 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:239633 CAPLUS

DOCUMENT NUMBER: 120:239633

TITLE: Devices and methods for detection of an analyte based upon light interference

INVENTOR(S): Bogart, Gregory R.; Moddel, Garret R.; Maul, Diana M.; Etter, Jeffrey B.; Crosby, Mark; Miller, John B.; Blessing, James; Kelley, Howard; Sandstrom, Torbjorn; Stibler, Lars

PATENT ASSIGNEE(S): Biostar, Inc., USA

SOURCE: PCT Int. Appl., 208 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 14

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9403774	A1	19940217	WO 1993-US5673	19930610
W: AT, AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9179004	A1	19921021	AU 1991-79004	19910320
AU 653940	B2	19941020		
EP 539383	A1	19930505	EP 1991-910056	19910320
EP 539383	B1	19960918		
R: BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
JP 05506936	T2	19931007	JP 1991-509344	19910320
JP 3193373	B2	20010730		
ES 2094224	T3	19970116	ES 1991-910056	19910320

JP 2001235473	A2	20010831	JP 2000-287242	19910320
AU 9345360	A1	19940303	AU 1993-45360	19930610
JP 07509565	T2	19951019	JP 1994-505280	19930610
JP 3506703	B2	20040315		
EP 727038	A1	19960821	EP 1993-915341	19930610
R: ES, FR, GB, IT, SE				
EP 1126278	A2	20010822	EP 2001-108521	19930610
EP 1126278	A3	20011017		
R: ES, FR, GB, IT, SE				
JP 2002116208	A2	20020419	JP 2001-236186	19930610
JP 3507048	B2	20040315		
JP 2002139498	A2	20020517	JP 2001-236144	19930610
JP 3456984	B2	20031014		
JP 2002122601	A2	20020426	JP 2001-236166	20010803
JP 3673849	B2	20050720		
JP 2002122603	A2	20020426	JP 2001-236198	20010803
JP 3547723	B2	20040728		
JP 2005049356	A2	20050224	JP 2004-276389	20040924
PRIORITY APPLN. INFO.:				
			US 1992-924343	A 19920731
			EP 1991-910056	A 19910320
			JP 1991-509344	A3 19910320
			WO 1991-US1781	A 19910320
			EP 1993-915341	A3 19930610
			JP 1994-505280	A3 19930610
			JP 2001-236166	A3 19930610
			WO 1993-US5673	W 19930610
ED	Entered STN: 14 May 1994			
AB	<p>Methods for analyzing an optical surface for an analyte of interest in a test sample and related instruments/devices are disclosed. The method entails the use of a thin-film optical immunoassay device whereby an analyte of interest is detected in a test sample through spectral changes in the light impinging on the surface prior to and after the binding of the analyte to a reactive substrate layer(s). The device includes a substrate which has a 1st color in response to light impinging thereon. The substrate also exhibits a 2nd color which is different from the 1st color. The 2nd color is exhibited in response to the same light when the analyte is present on the surface. Thus, SiO was vapor deposited on a polished monocryst. Si wafer to a thickness of 550 Å; the film had a golden interference color. The film was activated with N-(2-aminoethyl)-3-aminopropyltrimethoxysilane, coated with a DNP-albumin conjugate to a thickness of 40Å, rinsed, and dried. The coated wafer was used in a competitive immunoassay for DNP using goat anti-DNP antibody and an ellipsometer to measure the change in mass at the surface from the change in light intensity.</p>			
IC	ICM G01B009-02			
	ICS G01N021-62			
CC	9-1 (Biochemical Methods)			
	Section cross-reference(s): 79, 80			
IT	Ceramic materials and wares			
	Glass, oxide			
	Plastics			
	RL: ANST (Analytical study)			
	(attachment layer and optical thin film on substrate of, in interferometer for chemical anal.)			
IT	Silanes			
	RL: ANST (Analytical study)			
	(attachment layer containing, on interferometer for chemical anal.)			
IT	Reflectometers			
	(for chemical anal.)			
IT	Ellipsometers			

- (for **chemical** anal., attachment layers and optical thin films for)
- IT Semiconductor materials
(in interferometer, for **chemical** anal.)
- IT Silazanes
Silicates, uses
Titanates
RL: ANST (Analytical study)
(optical thin film of, on ellipsometer for **chemical** anal.)
- IT Latex
Dendritic polymers
Siloxanes and Silicones, uses
RL: ANST (Analytical study)
(optical thin film of, on interferometer for **chemical** anal.)
- IT Electric conductors
(oxide films, on interferometer for **chemical** anal.)
- IT Polymers, uses
RL: USES (Uses)
(self-assembling, optical thin film of, on interferometer for **chemical** anal.)
- IT Siloxanes and Silicones, uses
RL: USES (Uses)
(aminoalkyl, branched, T-structured, films, on optical glass substrate in interferometer for **chemical** anal.)
- IT Films
(elec. conductive, oxide, on interferometer for **chemical** anal.)
- IT Optical materials
(films, on ellipsometer for **chemical** anal.)
- IT Films
(optical, on ellipsometer for **chemical** anal.)
- IT Polymers, uses
RL: USES (Uses)
(star-branched, optical thin film of, on interferometer for **chemical** anal.)
- IT 11105-01-4, Silicon oxynitride
RL: ANST (Analytical study)
(antireflective film containing, on interferometer for **chemical** anal.)
- IT 9002-98-6D, Polyethylenimine, trimethoxysilylpropyl-modified
9003-17-2D, Polybutadiene, triethoxysilyl-modified 9003-53-6,
Polystyrene 144856-48-4, TC 7A
RL: ANST (Analytical study)
(attachment layer of, on interferometer for immunoassay)
- IT 1306-23-6, Cadmium sulfide, uses 7631-86-9, Silicon dioxide, uses
7782-40-3, Diamond, uses
RL: USES (Uses)
(composites with silicon, antireflective layer containing, on interferometer for **chemical** anal.)
- IT 7440-47-3, Chromium, uses
RL: USES (Uses)
(conductive layer of, on interferometer for **chemical** anal.)
- IT 7429-90-5, Aluminum, uses
RL: USES (Uses)
(film, on optical glass substrate in interferometer for **chemical** anal.)
- IT 7440-21-3, Silicon, uses
RL: USES (Uses)
(monocryst., attachment layer and optical thin film on substrate of, in interferometer for **chemical** anal.)
- IT 7429-90-5D, Aluminum, alkoxides 409-21-2, Silicon carbide, uses

1314-23-4, Zirconium oxide, uses 12033-89-5, Silicon nitride, uses
13463-67-7, Titanium dioxide, uses

RL: ANST (Analytical study)

(optical thin film of, on ellipsometer for **chemical** anal.)

IT 1760-24-3, N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane

RL: ANST (Analytical study)

(silicon wafer activation with, for coating with antibody for
immunoassay)

L62 ANSWER 25 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1988:539199 CAPLUS

DOCUMENT NUMBER: 109:139199

TITLE: Adhesion promoting product containing alkoxyasilane and
process for treating an integrated circuit substrate
therewith

INVENTOR(S): Brewer, Terry; Flaim, Tony D.; Moss, Mary G.

PATENT ASSIGNEE(S): Brewer Science, Inc., USA

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 260976	A2	19880323	EP 1987-308256	19870917
EP 260976	A3	19880803		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 4950583	A	19900821	US 1986-908360	19860917
JP 63077123	A2	19880407	JP 1987-223219	19870908
PRIORITY APPLN. INFO.:			US 1986-908360	A 19860917

ED Entered STN: 14 Oct 1988

AB A method of producing microelectronic components by photolithog. uses a
new adhesion promoter from an alkoxyasilane such as an
aminophenylalkoxyasilane, a nonamino aromatic alkoxyasilane, a nonamino
chloroalkylalkoxyasilane or a nonamino acrylic alkoxyasilane. Optionally,
the adhesion promoter composition contains an adjuvant polymer and an adhesion
promoting catalyst. The composition improves the adhesion of the
microelectronic coating (e.g., from a photoresist) to the substrate.
Thus, a composition containing methacryloxypropyltrimethoxysilane, isopropanol

and

ethanolamine produced improved adhesion of the pos. photoresist to a
substrate e.g., Si and Si nitride.

IC ICM G03F007-02

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

Section cross-reference(s): 76

IT 780-69-8, Phenyltriethoxysilane 1646-59-9 1760-24-3

2530-83-8 4420-74-0, 3-Mercaptopropyltrimethoxysilane 7003-80-7,
(p-Aminophenyl)triethoxysilane 13822-56-5, 3-Aminopropyltrimethoxysilane

27326-65-4 58068-97-6, 4,5-Dihydro-1-(3-(triethoxysilyl)propyl)-1H-
imidazole 70851-51-3, N-Trimethoxysilylpropylimidazole 74113-77-2

RL: USES (Uses)

(adhesion promoting agent, for microelectronic component)

IT 64-19-7, Acetic acid, uses and miscellaneous 141-43-5, Ethanolamine,
uses and miscellaneous

RL: USES (Uses)

(adhesion promoting **catalyst**, for microelectronic components)

IT 2530-85-0 9002-98-6 9004-67-5, Methyl cellulose 54077-45-1

RL: USES (Uses)
 (adhesion promoting composition containing alkoxysilane and, for
 microelectronic
 components)

L62 ANSWER 26 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1988:506833 CAPLUS

DOCUMENT NUMBER: 109:106833

TITLE: Use of **modified** titanium etc. species for
 the immobilization of **bioactive** compounds
enzymes

AUTHOR(S): Kennedy, John F.; Cabral, Joaquim M. S.

CORPORATE SOURCE: Dep. Chem., Univ. Birmingham, Birmingham, B15 2TT, UK

SOURCE: Transition Metal Chemistry (Dordrecht, Netherlands)
 (1987), 12(6), 481-93

CODEN: TMCHDN; ISSN: 0340-4285

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

ED Entered STN: 01 Oct 1988

AB A review with 26 refs., of enzyme immobilization on chemical modified
 transition metal oxides, especially Ti(IV) oxides. The topics discussed
 include

the crosslinking stabilization of enzymes immobilized on hydrous metal
 oxide type supports, enzyme immobilization on derivatized hydrous metal
 oxide type supports, and enzyme immobilization on organic polymers in
 association

with transition metal species.

CC 7-0 (Enzymes)

IT Polymers, uses and miscellaneous

RL: USES (Uses)

(enzyme immobilization on transition metal oxides **coated**
 with)

IT Enzymes

RL: PROC (Process)

(immobilization of, on **chemical** modified transition metal
 oxides)

IT Immobilization, biochemical

(of enzymes, on **chemical** modified transition metal oxides)

IT 13463-67-7DP, Titanium oxide (TiO₂), **chemical** modified

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and use in enzyme immobilization)

L62 ANSWER 27 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1988:451291 CAPLUS

DOCUMENT NUMBER: 109:51291

TITLE: Insoluble **chemical** composite material
 suitable as a biocatalytic or affinity chromatographic
 carrier and method for its preparation

INVENTOR(S): Nakamura, Makoto; Kumazawa, Toshiaki; Kogure, Eriko

PATENT ASSIGNEE(S): Olympus Optical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 239079	A2	19870930	EP 1987-104341	19870324

EP 239079 A3 19880727
 R: DE, FR, GB
 JP 62226809 A2 19871005 JP 1986-69529 19860327
 PRIORITY APPLN. INFO.: JP 1986-69529 A 19860327
 ED Entered STN: 19 Aug 1988
 AB This material and method are described, where the material comprises a silicon dioxide-based carrier in the form of a particle, a fiber, or a tube, and polyethyleneimine, with an average mol. weight of 30,000 to 80,000, bonded to the carrier material by a silane coupling agent which is directly chemical bonded to the surface of the carrier material and comprises an epoxy-functional silane coupling agent to which the polyethyleneimine is directly bonded and is selected from the group consisting of β -(3,4-epoxycyclohexyl)ethyltrimethoxysilane, γ -glycidoxypropyltrimethoxysilane, and γ -glycidoxypropylmethyldiethoxysilane. The silane coupling agent may not contain an epoxy group and the polyethyleneimine is covalently bonded to a linking agent, such as a dialdehyde compound like glutaraldehyde, covalently bonded with the silane coupling agent comprising an amino-functional silane coupling agent selected from the group consisting of N- β -(aminoethyl)- γ -aminopropyltrimethoxysilane, N- β -(aminoethyl)- γ -aminopropylmethyldimethoxysilane, γ -aminopropyltriethoxysilane, and N-phenyl- γ -aminopropyltrimethoxysilane. A biochem., comprising an anti-human IgG monoclonal antibody or glucose oxidase, is bonded to an imino group and/or an amino group of the polyethyleneimine through a 2nd linking agent such as a dialdehyde like glutaraldehyde or such as a diepoxide compound like 1,4-butanediolglycidyl ether. This composite material has high moisture resistance and high alkali resistance. Bioreactor particles were prepared and filled into a column for a high-performance liquid chromatograph, and particles were prepared for an affinity-chromatog. carrier for human IgG separation
 IC ICM B01J020-32
 CC 9-3 (Biochemical Methods)
 Section cross-reference(s): 80
 IT Immunoglobulins
 RL: ANST (Analytical study)
 (G, separation of human, insol. **chemical** composite material as carriers for affinity chromatog. in)
 IT Chromatography, column and liquid
 (affinity, insol. **chemical** composite material as carriers for)
 IT Reactors
 (biocatalytic, insol. **chemical** composite material as carriers for)
 IT Chromatography, column and liquid
 (high-performance, insol. **chemical** composite material as carriers for)
 IT 919-30-2D, γ -Aminopropyltriethoxysilane, reaction products with silica and polyethyleneimine 1760-24-3D, reaction products with silica and polyethyleneimine 2530-83-8D, γ -Glycidoxypropyltrimethoxysilane, reaction products with silica and polyethyleneimine 2897-60-1D, γ -Glycidoxypropylmethyldiethoxysilane, reaction products with silica and polyethyleneimine 3068-76-6D, reaction products with silica and polyethyleneimine 3069-29-2D, N- β -(Aminoethyl)- γ -aminopropylmethyldimethoxysilane, reaction products with silica and polyethyleneimine 3388-04-3D, β -(3,4-Epoxycyclohexyl)ethyltrimethoxysilane, reaction products with silica and polyethyleneimine
 RL: ANST (Analytical study)
 (coupling agent, insol. **chemical** composite material from, for biocatalytic or affinity chromatog. carriers)
 IT 111-30-8D, Glutaraldehyde, reaction products with silica and

polyethyleneimine and silane coupling agent 1064-48-8 2425-79-8D, 1,4-Butanedioldiglycidyl ether, reaction products with silica and polyethyleneimine and silane coupling agent 9001-37-0D, Glucose oxidase, reaction products with silica and polyethyleneimine and silane coupling agent

RL: ANST (Analytical study)

(insol. **chemical** composite material from, for biocatalytic or affinity chromatog. carriers)

IT 7631-86-9D, Silicon dioxide, reaction products with polyethyleneimine and silane coupling agent 7803-62-5D, Silane, derivs., reaction products with polyethyleneimine and silica **9002-98-6D**, reaction products with silicon dioxide and silane coupling agent

RL: ANST (Analytical study)

(insol. composite material from, for biocatalytic or affinity chromatog. carriers)

L62 ANSWER 28 OF 28 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1981:605045 CAPLUS

DOCUMENT NUMBER: 95:205045

TITLE: Removal of heavy **metals** by **chelate** resins

AUTHOR(S): Choi, Kyu Suck; Chung, Taek Sang; Chang, Byong Kwan; Park, Young Ser

CORPORATE SOURCE: Dep. Ind. Chem., Hanyang Univ., Seoul, S. Korea

SOURCE: Polymer (Korea) (1981), 5(3), 194-202

CODEN: POLLDG; ISSN: 0379-153X

DOCUMENT TYPE: Journal

LANGUAGE: Korean

ED Entered STN: 12 May 1984

AB Chelating resins for the absorption of heavy metals were prepared by treating silica gel or a cellulosic material, i.e., corncobs, with a coupling agent, polyethylenimine, and 2,4-TDI. In the case of resins on silica gel, the presence of silane couplers resulted in an increased adsorptivity for Pb²⁺ and Hg²⁺ but decreased adsorptivity for Cd²⁺. Resins prepared with methacrylate functional silanes showed the best adsorptivity for Hg²⁺.

CC 37-3 (Plastics Fabrication and Uses)

ST polyethylenimine TDI **chelating** resin; corncob carrier **chelating** resin; silica gel carrier **chelating** resin; silane coupler **chelating** resin; heavy **metal chelating** resin

IT Corncob
(in **chelating** resin manufacture, heavy **metal** adsorptivity in relation to)

IT Coupling agents
(silanes, in **chelating** resin preparation, heavy **metal** adsorptivity in relation to)

IT **Metals**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(heavy, **chelation** of, carrier-supported resins for)

IT 584-84-9D, reaction products with polyethylinimine **9002-98-6D**, reaction products with TDI
RL: USES (Uses)

(**chelating** resin manufacture from, for heavy **metals**)

IT 1450-14-2 **1760-24-3** 2530-85-0 31681-13-7

RL: USES (Uses)

(coupling agents, in **chelate** resin prepn, heavy **metal** adsorptivity in relation to)

L63 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:394680 CAPLUS
DOCUMENT NUMBER: 141:291503
TITLE: Surface modification technology for bio-MEMS
AUTHOR(S): Shin, Dong-Sik; Kang, Chan-Ku; Kim, Jae-Kwon; Chung, Woo-Jae; Jang, Ki-Hoon; **Lee, Yoon-Sik**
CORPORATE SOURCE: School of Chemical Engineering, Seoul National University, Seoul, 151-744, S. Korea
SOURCE: Transducers '03, International Conference on Solid-State Sensors, Actuators and Microsystems, Digest of Technical Papers, 12th, Boston, MA, United States, June 8-12, 2003 (2003), Volume 2, 1746-1749. Institute of Electrical and Electronics Engineers: New York, N. Y.
CODEN: 69FHV2; ISBN: 0-7803-7731-1
DOCUMENT TYPE: Conference
LANGUAGE: English
ED Entered STN: 16 May 2004

AB We have modified the surfaces of glass and stainless steel with polymers. The purposes of surface modification are for effective protein immobilization and increasing biocompatibility. The surface modified substrates were characterized by contact angle measurement, atomic force microscopy (AFM), XPS, and confocal fluorescence microscopy. Protein adsorption test was performed on the modified surfaces via enzyme-substrate reaction and fluorescence intensity measurement. We observed a drastic decrease of nonspecific adsorption of proteins when the surfaces are modified with hydrophilic polymers.

CC 9-1 (Biochemical Methods)

IT Reaction

(**Enzyme**-substrate; surface **modification** technol.
for bio-MEMS)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:343343 CAPLUS
DOCUMENT NUMBER: 127:78170
TITLE: Efficient immobilization of proteins by modification of plate surface with polystyrene derivatives
AUTHOR(S): Suzuki, Noriko; Quesenberry, Michael S.; Wang, Judy K.; Lee, Reiko T.; Kobayashi, Kazukiyo; **Lee, Yuan C.**
CORPORATE SOURCE: Dep. Biology & McCollum-Pratt Inst., Johns Hopkins Univ., Baltimore, MD, 21218, USA
SOURCE: Analytical Biochemistry (1997), 247(2), 412-416
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 31 May 1997
AB Immobilization of proteins on microplate wells by simple adsorption (e.g., for ELISA) is convenient, but it can be inefficient, especially if proteins are hydrophilic or small in size. This problem was alleviated by the use of polyvinylbenzyl lactonoylamide (PVLA). PVLA is strongly adsorbed to the hydrophobic well surface, and its lactonamide part can be oxidized with periodate to generate aldehydo groups. Proteins are then immobilized covalently to the aldehydo groups by reductive amination under mild conditions. Using this method, henceforth termed the PVLA method, alkaline

phosphatase (AP) was immobilized to microplates six- to sevenfold greater than by simple adsorption (as measured by activity). Similarly, the activity of immobilized mannose-binding protein A (MBP-A) was 4- to 8-fold higher by the PVLA method than by simple adsorption. The PVLA-coated plates needed as little as 200 ng of MBP-A per well to have a sufficient amount of MBP-A immobilized for the measurement of binding of ¹²⁵I-labeled mannosylated bovine serum albumin (¹²⁵I-Man-BSA), but unmodified plates required as much as 20 µg/well MBP-A to obtain the same response. Recommended conditions for the PVLA method are 40 µl of 2 mg/mL of PVLA for coating, 1 mM NaIO₄ for the generation of the aldehyde groups, and a 2-h reductive amination at 37° between pH 8 and 9 for the protein ligation.

CC 9-16 (Biochemical Methods)

IT Immunoassay

(**enzyme**-linked immunosorbent assay; efficient immobilization of proteins by **modification** of plate surface with polystyrene derivs.)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:924029 CAPLUS

DOCUMENT NUMBER: 124:28875

TITLE: Evaluation of the **modifying** influence of arecanut on the garlic-modulated hepatic detoxication system **enzymes**, sulfhydryl content, and lipid peroxidation in mice

AUTHOR(S): Singh, Anjali; Rao, A. R.

CORPORATE SOURCE: School Life Sciences, Jawaharlal Nehru University, New Delhi, India

SOURCE: Teratogenesis, Carcinogenesis, and Mutagenesis (1995), 15(3), 127-34

CODEN: TCMUD8; ISSN: 0270-3211

PUBLISHER: Wiley-Liss

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 16 Nov 1995

AB This paper evaluates the potential effects of arecanut (Areca catechu, L.), an important ingredient of betel quid, on the garlic (Allium sativum, L.)-modulated activities of hepatic detoxication system enzymes, acid soluble sulfhydryl content, and lipid peroxidn. in mice. Mice were fed on either a normal diet or a diet containing 0.25%, 0.5%, or 1% (weight/weight) arecanut for

45 days. During the last 10 days of treatment garlic was orally administered at a dose level of 20 or 100 mg/kg/day. Significant modulation in the activities of phase I and phase II enzymes, -SH content, and malondialdehyde (MDA) level by garlic was observed. Garlic-modulated alterations in glutathione S-transferase (GST) activity and -SH content were decreased, while cytochrome b5, cytochrome P 450, and MDA levels were further augmented by the arecanut plus garlic treatments.

CC 18-7 (Animal Nutrition)

L63 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:239520 CAPLUS

DOCUMENT NUMBER: 120:239520

TITLE: Preparation and characterization of ligand-modified labeled liposomes for solid phase immunoassays

AUTHOR(S): Jones, Matthew A.; Singh, Anup; Kilpatrick, Peter K.; Carbonell, Ruben G.

CORPORATE SOURCE: Dep. Chem. Eng., North Carolina State Univ., Raleigh,

NC, 27695-7905, USA
 SOURCE: Journal of Liposome Research (1993), 3(3), 793-804
 CODEN: JLRREE7; ISSN: 0898-2104
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 14 May 1994
 AB Small unilamellar vesicles conjugated with an enzyme label and with specific ligands for biol. mols. may prove to be useful as signal enhancement vehicles in the development of enzyme-linked immunoadsorbent assays and other detection applications. Bifunctional vesicles have been prepared by covalently attaching horseradish peroxidase (HRP) and monoclonal antibodies to the outside of the lipid bilayer. The reaction conditions were optimized to obtain 7-12 antibody mols. and 100-200 HRP mols. per vesicle. The enzyme retained 70-80% of its specific activity after immobilization with no apparent change in vesicle stability. These bifunctional vesicles were used in a noncompetitive immunoassay for D-Dimer, a fibrin dimer formed at the early stages of thrombogenesis. The assay results using vesicles led to a detection limit for D-Dimer in human plasma which was five times lower than what was achieved using a conventional enzyme-antibody conjugate assay. HRP labeled (bifunctional) liposomes can also be used in competitive assays for the detection of small ligands in bulk solution. HRP and biotin-conjugated vesicles were prepared and used in competitive assays for biotin in free solution. The lowest detection limit for biotin using vesicles as the signal generation mechanism was a factor of 10 lower than what could be observed with a traditional biotin-HRP conjugate. A model has been developed for the competition between a small ligand in solution and a large ligand-conjugated vesicle for binding sites on a solid surface.
 CC 9-10 (Biochemical Methods)
 Section cross-reference(s): 15
 IT Immunoassay
 (enzyme-linked immunosorbent assay, ligand-modified labeled liposomes for)

L63 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1979:536086 CAPLUS
 DOCUMENT NUMBER: 91:136086
 TITLE: Sequence-specific endonuclease Bgl I.
 Modification of lysine and arginine residues
 of the homogeneous enzyme
 AUTHOR(S): Lee, Yan Hwa; Chirikjian, Jack G.
 CORPORATE SOURCE: Med. Cent., Georgetown Univ., Washington, DC, 20007,
 USA
 SOURCE: Journal of Biological Chemistry (1979), 254(15),
 6838-41
 CODEN: JBCHA3; ISSN: 0021-9258
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 12 May 1984
 AB The sequence-specific restriction endonuclease BglI from Bacillus globigii (RUB561) was purified to homogeneity as determined by denaturing polyacrylamide gel anal. The active form of the enzyme was a single polypeptide with a mol. weight of 32,000. The enzyme required Mg²⁺ in the reaction mixture and displayed a broad pH and monovalent cation requirement. BglI was not sensitive to SH-group reagents, but was affected by reagents that modify lysine and arginine residues. When lysine residues were modified by pyridoxal phosphate, both binding and catalysis were diminished whereas modification of arginine residues by 2,3-butanedione inhibited the enzyme activity but had no effect on its binding properties.
 CC 7-2 (Enzymes)

L63 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1978:559461 CAPLUS

DOCUMENT NUMBER: 89:159461

TITLE: Inactivation of phosphorylase b by potassium ferrate.
Identification of a tyrosine residue involved in the
binding of adenosine 5'-monophosphate

AUTHOR(S): Lee, Young Moo; Benisek, William F.

CORPORATE SOURCE: Sch. Med., Univ. California, Davis, CA, USA

SOURCE: Journal of Biological Chemistry (1978), 253(15),
5460-3

CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 May 1984

AB The site of reaction of K ferrate (K₂FeO₄) with rabbit muscle
phosphorylase b was further characterized in an extension of previously
published studies reporting inactivation of the enzyme by this reagent.
The tryptic peptide composed of residues 70-80 of the enzyme polypeptide
chain contained a tyrosine residue which was chemical modified by ferrate and
which was protected by AMP. The sequence of this peptide obtained from
both untreated and ferrate-treated phosphorylase b was determined, and the
results showed that tyrosine-75 was the residue with which ferrate reacts.

CC 7-5 (Enzymes)

IT 13718-66-6

RL: BIOL (Biological study)

(phosphorylase b tyrosine **modification** by, **enzyme**
AMP binding site in relation to)

=>